

Routing Diagram for Glencoe Post Developed
 Prepared by HP Inc., Printed 2/8/2024
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Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Yr	Type III 24-hr		Default	24.00	1	3.30	2
2	10-Yr	Type III 24-hr		Default	24.00	1	4.90	2
3	25-Yr	Type III 24-hr		Default	24.00	1	6.20	2

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
16.030	84	1 acre lots, 20% imp, HSG D (Post-3, Post-4, Post-5, Post-6)
1.000	98	Impervious (Post-1, Post-8)
18.640	70	Woods, Good, HSG C (Post-1, Post-2, Post-8)
36.750	77	Woods, Good, HSG D (Post-1, Post-2, Post-7)
72.420	77	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
18.640	HSG C	Post-1, Post-2, Post-8
52.780	HSG D	Post-1, Post-2, Post-3, Post-4, Post-5, Post-6, Post-7
1.000	Other	Post-1, Post-8
72.420		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	16.030	0.000	16.030	1 acre lots, 20% imp	Post-3, Post-4, Post-5, Post-6
0.000	0.000	0.000	0.000	1.000	1.000	Impervious	Post-1, Post-8
0.000	0.000	18.640	36.750	0.000	55.390	Woods, Good	Post-1, Post-2, Post-7, Post-8
0.000	0.000	18.640	52.780	1.000	72.420	TOTAL AREA	

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Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	2P	130.60	129.60	52.0	0.0192	0.012	0.0	36.0	0.0

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Type III 24-hr 2-Yr Rainfall=3.30"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentPost-1: Post-1 Runoff Area=33.150 ac 1.51% Impervious Runoff Depth>1.11"
Flow Length=1,460' Tc=30.2 min CN=76 Runoff=25.83 cfs 3.065 af

SubcatchmentPost-2: Post-2 Runoff Area=15.060 ac 0.00% Impervious Runoff Depth>1.04"
Flow Length=2,120' Tc=49.3 min CN=75 Runoff=8.64 cfs 1.309 af

SubcatchmentPost-3: Post-3 Runoff Area=8.710 ac 20.00% Impervious Runoff Depth>1.62"
Flow Length=685' Tc=47.7 min CN=84 Runoff=8.09 cfs 1.176 af

SubcatchmentPost-4: Post-4 Runoff Area=3.710 ac 20.00% Impervious Runoff Depth>1.63"
Flow Length=535' Tc=35.1 min CN=84 Runoff=4.03 cfs 0.503 af

SubcatchmentPost-5: Post-5 Runoff Area=1.370 ac 20.00% Impervious Runoff Depth>1.63"
Flow Length=380' Tc=26.7 min CN=84 Runoff=1.69 cfs 0.186 af

SubcatchmentPost-6: Post-6 Runoff Area=2.240 ac 20.00% Impervious Runoff Depth>1.63"
Flow Length=350' Tc=31.0 min CN=84 Runoff=2.58 cfs 0.304 af

SubcatchmentPost-7: Post-7 Runoff Area=2.460 ac 0.00% Impervious Runoff Depth>1.17"
Flow Length=285' Tc=20.8 min CN=77 Runoff=2.38 cfs 0.240 af

SubcatchmentPost-8: Post-8 Runoff Area=5.720 ac 8.74% Impervious Runoff Depth>0.89"
Flow Length=865' Tc=25.2 min CN=72 Runoff=3.77 cfs 0.426 af

Reach Reach-1: Stream Avg. Flow Depth=1.38' Max Vel=4.03 fps Inflow=30.11 cfs 3.749 af
n=0.040 L=430.0' S=0.0128 '/' Capacity=58.28 cfs Outflow=29.95 cfs 3.737 af

Pond 1P: Det Pond-1 Peak Elev=128.53' Storage=17,563 cf Inflow=8.09 cfs 1.176 af
Outflow=3.85 cfs 1.098 af

Pond 2P: Culvert Inlet Peak Elev=132.34' Storage=6,546 cf Inflow=31.44 cfs 3.755 af
36.0" Round Culvert x 2.00 n=0.012 L=52.0' S=0.0192 '/' Outflow=30.11 cfs 3.749 af

Link AP-1: Analysis point-1 Inflow=36.99 cfs 4.708 af
Primary=36.99 cfs 4.708 af

Link AP-2: Analysis Point-2 Inflow=11.80 cfs 2.407 af
Primary=11.80 cfs 2.407 af

Total Runoff Area = 72.420 ac Runoff Volume = 7.211 af Average Runoff Depth = 1.19"
94.19% Pervious = 68.214 ac 5.81% Impervious = 4.206 ac

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Type III 24-hr 2-Yr Rainfall=3.30"

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Summary for Subcatchment Post-1: Post-1

Runoff = 25.83 cfs @ 12.45 hrs, Volume= 3.065 af, Depth> 1.11"

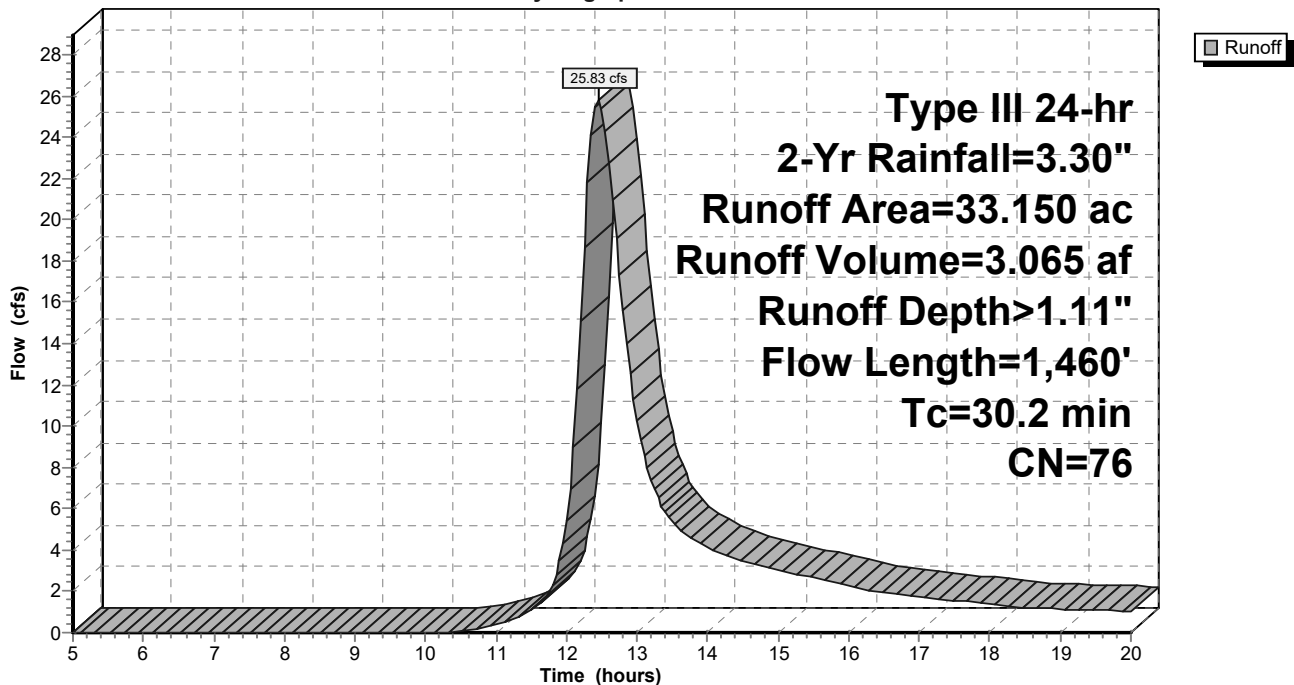
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Yr Rainfall=3.30"

Area (ac)	CN	Description
* 0.500	98	Impervious
8.090	70	Woods, Good, HSG C
24.560	77	Woods, Good, HSG D
33.150	76	Weighted Average
32.650		98.49% Pervious Area
0.500		1.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.1	100	0.0200	0.08		Sheet Flow, Post-1A Woods: Light underbrush n= 0.400 P2= 3.30"
6.3	380	0.0400	1.00		Shallow Concentrated Flow, Post-1B Woodland Kv= 5.0 fps
2.8	980	0.0190	5.78	34.70	Channel Flow, Post-1C Area= 6.0 sf Perim= 5.0' r= 1.20' n= 0.040 Winding stream, pools & shoals
30.2	1,460	Total			

Subcatchment Post-1: Post-1

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Type III 24-hr 2-Yr Rainfall=3.30"

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Summary for Subcatchment Post-2: Post-2

Runoff = 8.64 cfs @ 12.72 hrs, Volume= 1.309 af, Depth> 1.04"

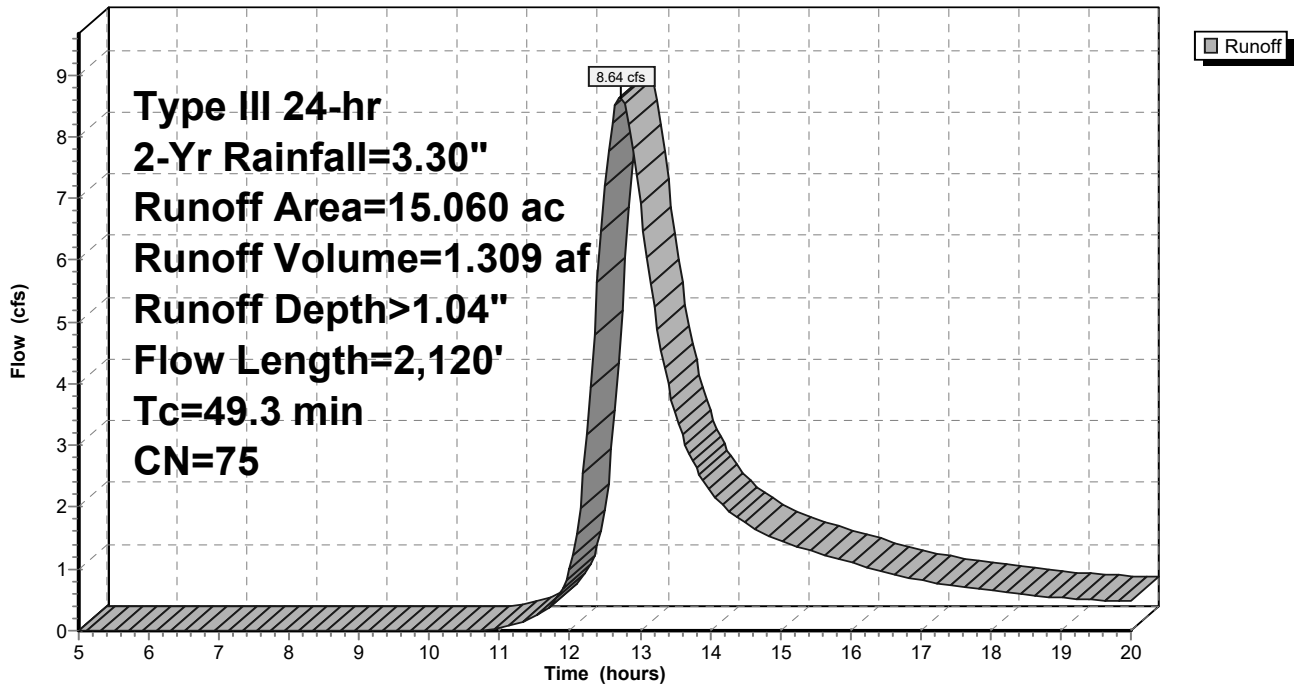
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Yr Rainfall=3.30"

Area (ac)	CN	Description
5.330	70	Woods, Good, HSG C
9.730	77	Woods, Good, HSG D
15.060	75	Weighted Average
15.060		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.1290	0.17		Sheet Flow, Post-2A
38.4	1,820	0.0250	0.79		Woods: Light underbrush n= 0.400 P2= 3.30" Shallow Concentrated Flow, Post-2B
0.9	200	0.0250	3.85	23.07	Woodland Kv= 5.0 fps Channel Flow, Post-2C
					Area= 6.0 sf Perim= 5.0' r= 1.20' n= 0.069 Riprap, 6-inch
49.3	2,120	Total			

Subcatchment Post-2: Post-2

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Type III 24-hr 2-Yr Rainfall=3.30"

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Summary for Subcatchment Post-3: Post-3

Runoff = 8.09 cfs @ 12.66 hrs, Volume= 1.176 af, Depth> 1.62"

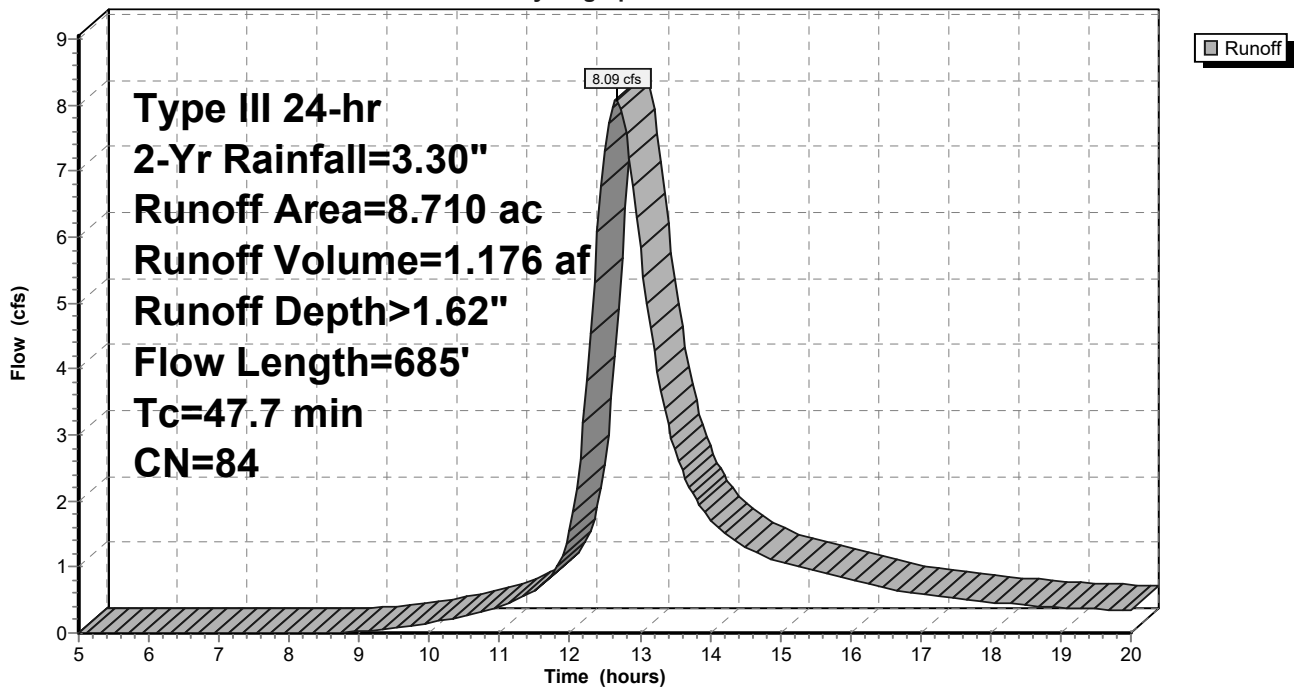
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Yr Rainfall=3.30"

Area (ac)	CN	Description
8.710	84	1 acre lots, 20% imp, HSG D
6.968		80.00% Pervious Area
1.742		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.4	100	0.0140	0.07		Sheet Flow, Post-3A
					Woods: Light underbrush n= 0.400 P2= 3.30"
23.3	585	0.0070	0.42		Shallow Concentrated Flow, Post-3B
					Woodland Kv= 5.0 fps
47.7	685	Total			

Subcatchment Post-3: Post-3

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Type III 24-hr 2-Yr Rainfall=3.30"

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Summary for Subcatchment Post-4: Post-4

Runoff = 4.03 cfs @ 12.49 hrs, Volume= 0.503 af, Depth> 1.63"

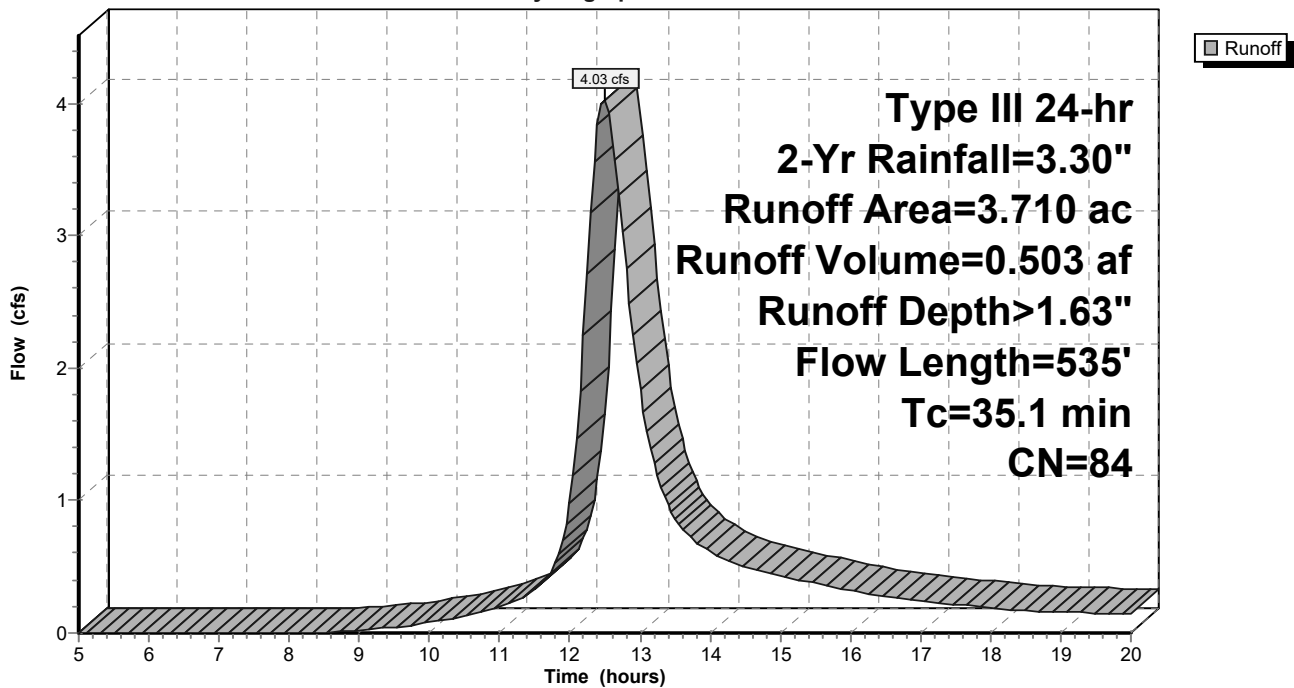
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Yr Rainfall=3.30"

Area (ac)	CN	Description
3.710	84	1 acre lots, 20% imp, HSG D
2.968		80.00% Pervious Area
0.742		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.1	100	0.0130	0.07		Sheet Flow, Post-4A
					Woods: Light underbrush n= 0.400 P2= 3.30"
10.0	435	0.0210	0.72		Shallow Concentrated Flow, Post-4B
					Woodland Kv= 5.0 fps
35.1	535	Total			

Subcatchment Post-4: Post-4

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Type III 24-hr 2-Yr Rainfall=3.30"

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Summary for Subcatchment Post-5: Post-5

Runoff = 1.69 cfs @ 12.37 hrs, Volume= 0.186 af, Depth> 1.63"

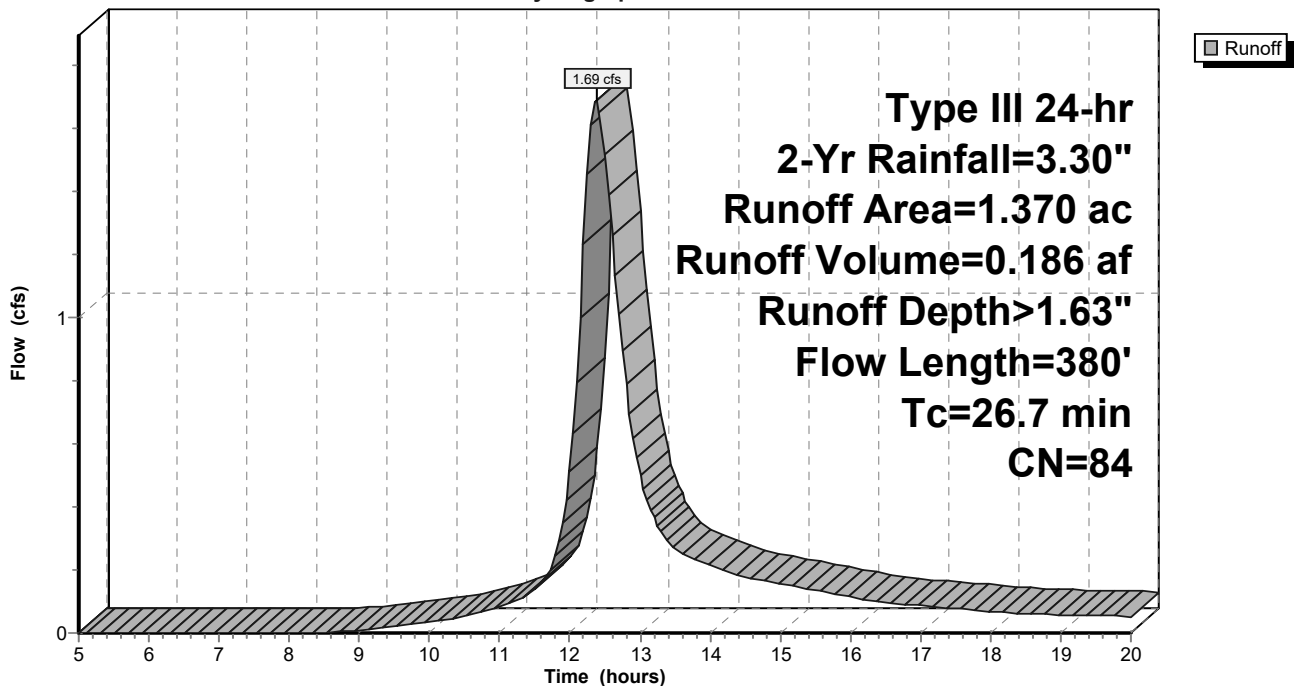
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Yr Rainfall=3.30"

Area (ac)	CN	Description
1.370	84	1 acre lots, 20% imp, HSG D
1.096		80.00% Pervious Area
0.274		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	100	0.0500	0.11		Sheet Flow, Post-5A
					Woods: Light underbrush n= 0.400 P2= 3.30"
12.0	280	0.0060	0.39		Shallow Concentrated Flow, Post-5B
					Woodland Kv= 5.0 fps
26.7	380	Total			

Subcatchment Post-5: Post-5

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Type III 24-hr 2-Yr Rainfall=3.30"

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Summary for Subcatchment Post-6: Post-6

Runoff = 2.58 cfs @ 12.44 hrs, Volume= 0.304 af, Depth> 1.63"

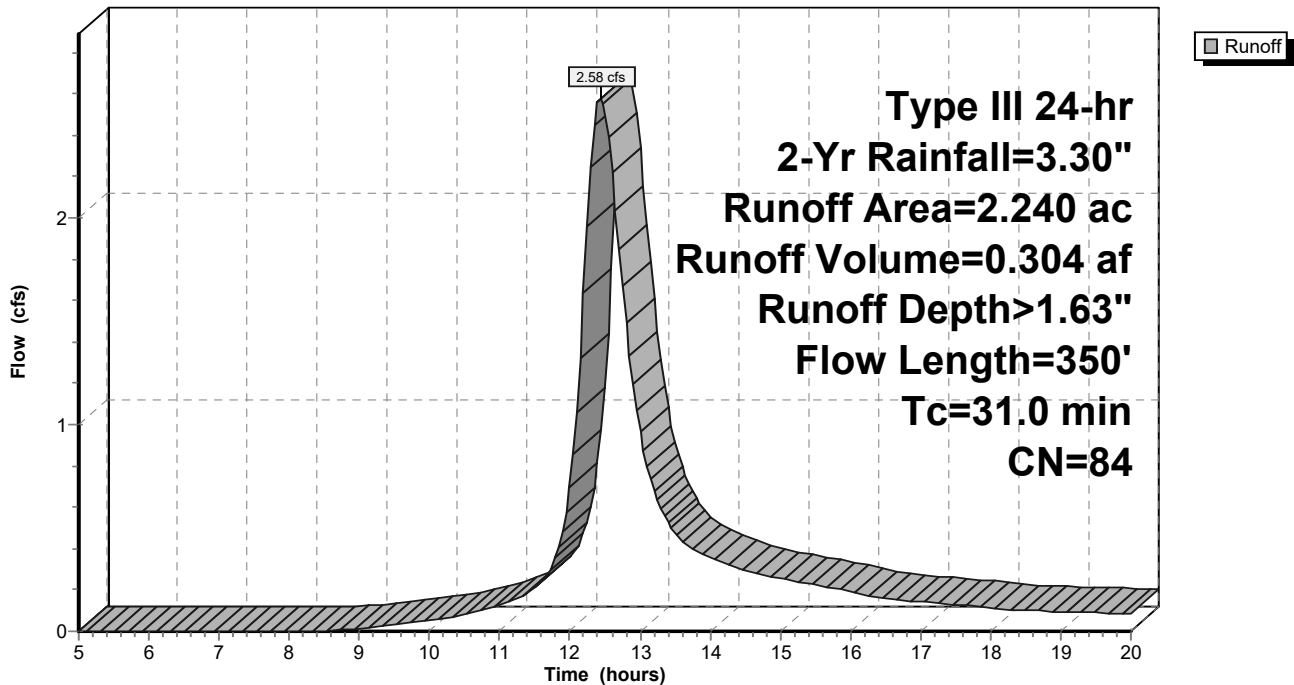
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Yr Rainfall=3.30"

Area (ac)	CN	Description
2.240	84	1 acre lots, 20% imp, HSG D
1.792		80.00% Pervious Area
0.448		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.9	100	0.0100	0.06		Sheet Flow, Post-4A Woods: Light underbrush n= 0.400 P2= 3.30"
2.8	150	0.0330	0.91		Shallow Concentrated Flow, Post-4B Woodland Kv= 5.0 fps
0.3	100	0.0100	4.79	28.77	Channel Flow, Post-4C Area= 6.0 sf Perim= 5.0' r= 1.20' n= 0.035 Earth, dense weeds
31.0	350	Total			

Subcatchment Post-6: Post-6

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Type III 24-hr 2-Yr Rainfall=3.30"

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Summary for Subcatchment Post-7: Post-7

Runoff = 2.38 cfs @ 12.31 hrs, Volume= 0.240 af, Depth> 1.17"

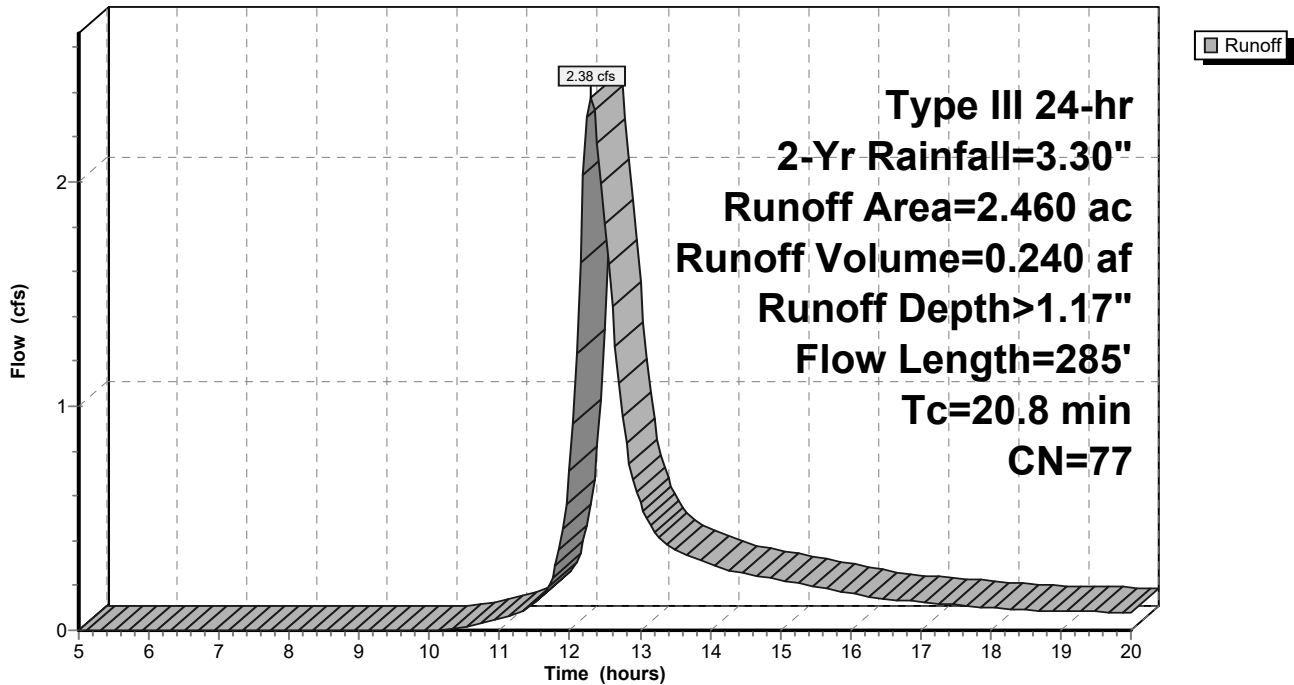
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Yr Rainfall=3.30"

Area (ac)	CN	Description
2.460	77	Woods, Good, HSG D
2.460		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.0	100	0.0300	0.09		Sheet Flow, Post-7A
					Woods: Light underbrush n= 0.400 P2= 3.30"
2.8	185	0.0500	1.12		Shallow Concentrated Flow, Post-7B
					Woodland Kv= 5.0 fps
20.8	285	Total			

Subcatchment Post-7: Post-7

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Type III 24-hr 2-Yr Rainfall=3.30"

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Summary for Subcatchment Post-8: Post-8

Runoff = 3.77 cfs @ 12.39 hrs, Volume= 0.426 af, Depth> 0.89"

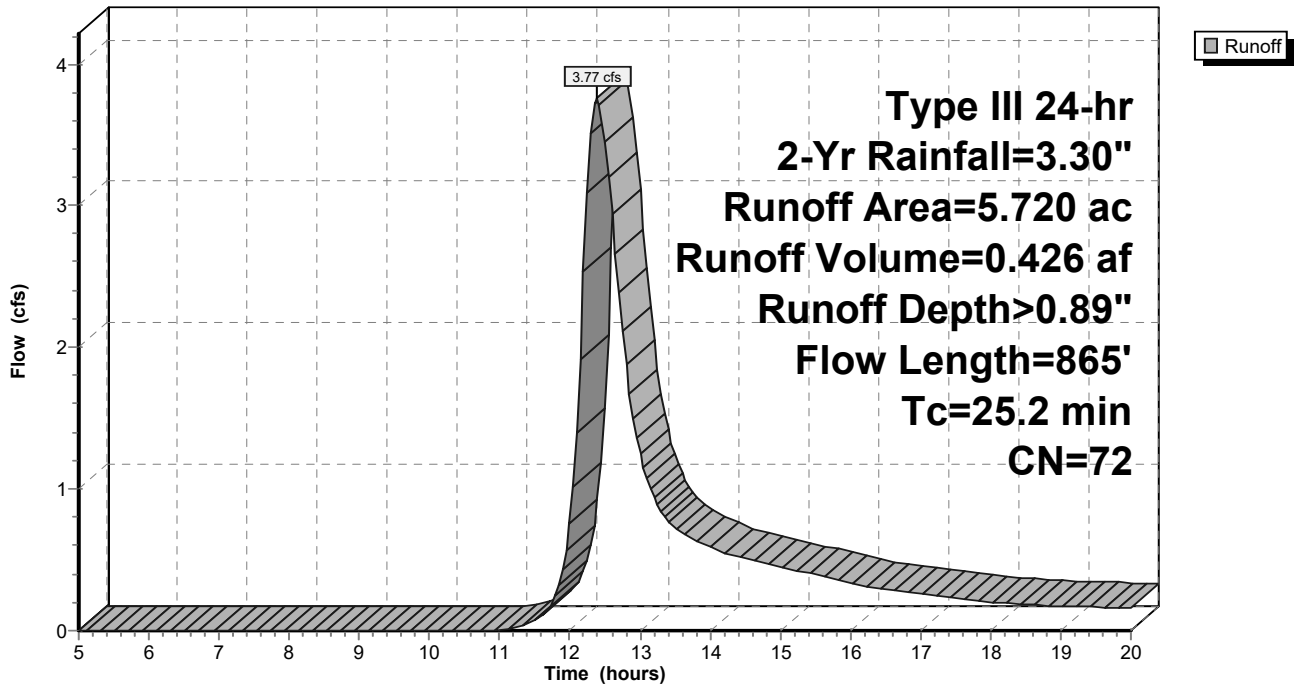
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Yr Rainfall=3.30"

Area (ac)	CN	Description
* 0.500	98	Impervious
5.220	70	Woods, Good, HSG C
5.720	72	Weighted Average
5.220		91.26% Pervious Area
0.500		8.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.0	100	0.0400	0.10		Sheet Flow, Post-8A
					Woods: Light underbrush n= 0.400 P2= 3.30"
9.2	765	0.0770	1.39		Shallow Concentrated Flow, Post-8B
					Woodland Kv= 5.0 fps
25.2	865	Total			

Subcatchment Post-8: Post-8

Hydrograph



Summary for Reach Reach-1: Stream

Inflow Area = 38.230 ac, 3.97% Impervious, Inflow Depth > 1.18" for 2-Yr event
 Inflow = 30.11 cfs @ 12.53 hrs, Volume= 3.749 af
 Outflow = 29.95 cfs @ 12.59 hrs, Volume= 3.737 af, Atten= 1%, Lag= 3.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 4.03 fps, Min. Travel Time= 1.8 min
 Avg. Velocity = 1.77 fps, Avg. Travel Time= 4.1 min

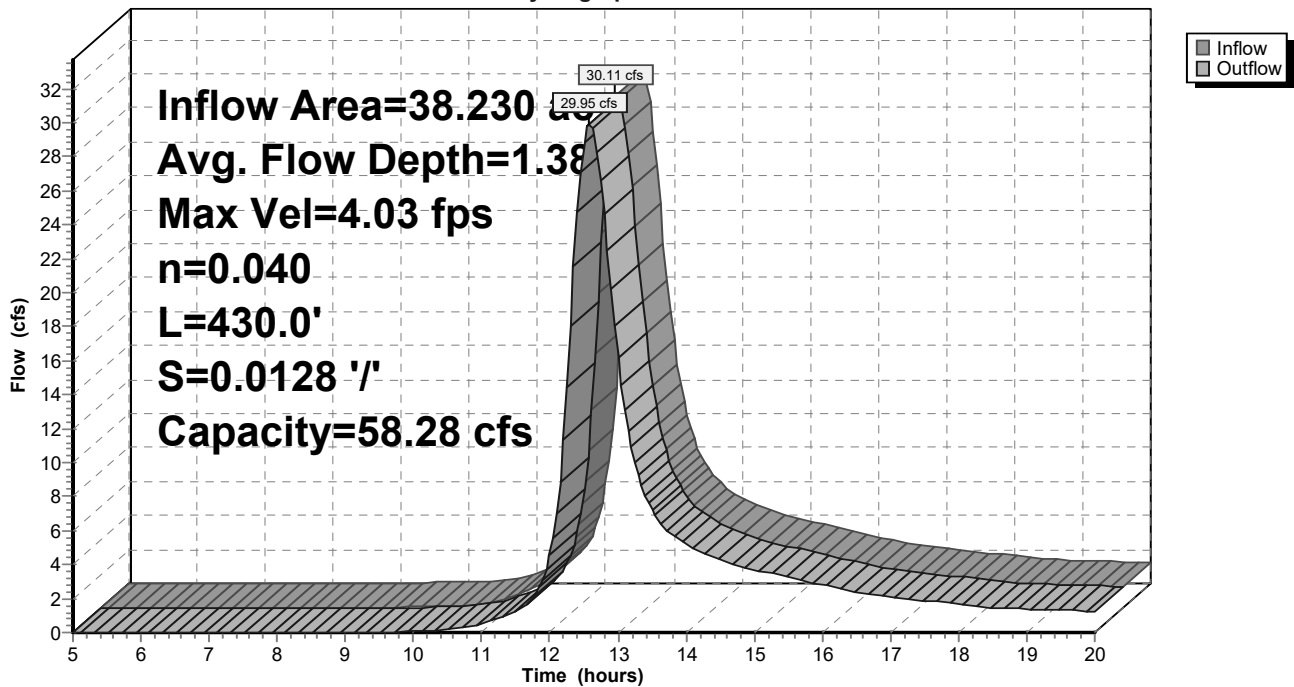
Peak Storage= 3,202 cf @ 12.56 hrs
 Average Depth at Peak Storage= 1.38', Surface Width= 6.77'
 Bank-Full Depth= 2.00' Flow Area= 12.0 sf, Capacity= 58.28 cfs

4.00' x 2.00' deep channel, n= 0.040 Winding stream, pools & shoals
 Side Slope Z-value= 1.0 '/' Top Width= 8.00'
 Length= 430.0' Slope= 0.0128 '/'
 Inlet Invert= 129.60', Outlet Invert= 124.10'



Reach Reach-1: Stream

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Type III 24-hr 2-Yr Rainfall=3.30"

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Summary for Pond 1P: Det Pond-1

Inflow Area = 8.710 ac, 20.00% Impervious, Inflow Depth > 1.62" for 2-Yr event
 Inflow = 8.09 cfs @ 12.66 hrs, Volume= 1.176 af
 Outflow = 3.85 cfs @ 13.27 hrs, Volume= 1.098 af, Atten= 52%, Lag= 36.5 min
 Primary = 3.85 cfs @ 13.27 hrs, Volume= 1.098 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 128.53' @ 13.27 hrs Surf.Area= 12,436 sf Storage= 17,563 cf

Plug-Flow detention time= 77.9 min calculated for 1.098 af (93% of inflow)
 Center-of-Mass det. time= 56.5 min (881.4 - 824.9)

Volume	Invert	Avail.Storage	Storage Description
#1	127.00'	68,960 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
127.00	10,480	0	0
128.00	11,730	11,105	11,105
129.00	13,050	12,390	23,495
130.00	14,420	13,735	37,230
131.00	15,850	15,135	52,365
132.00	17,340	16,595	68,960

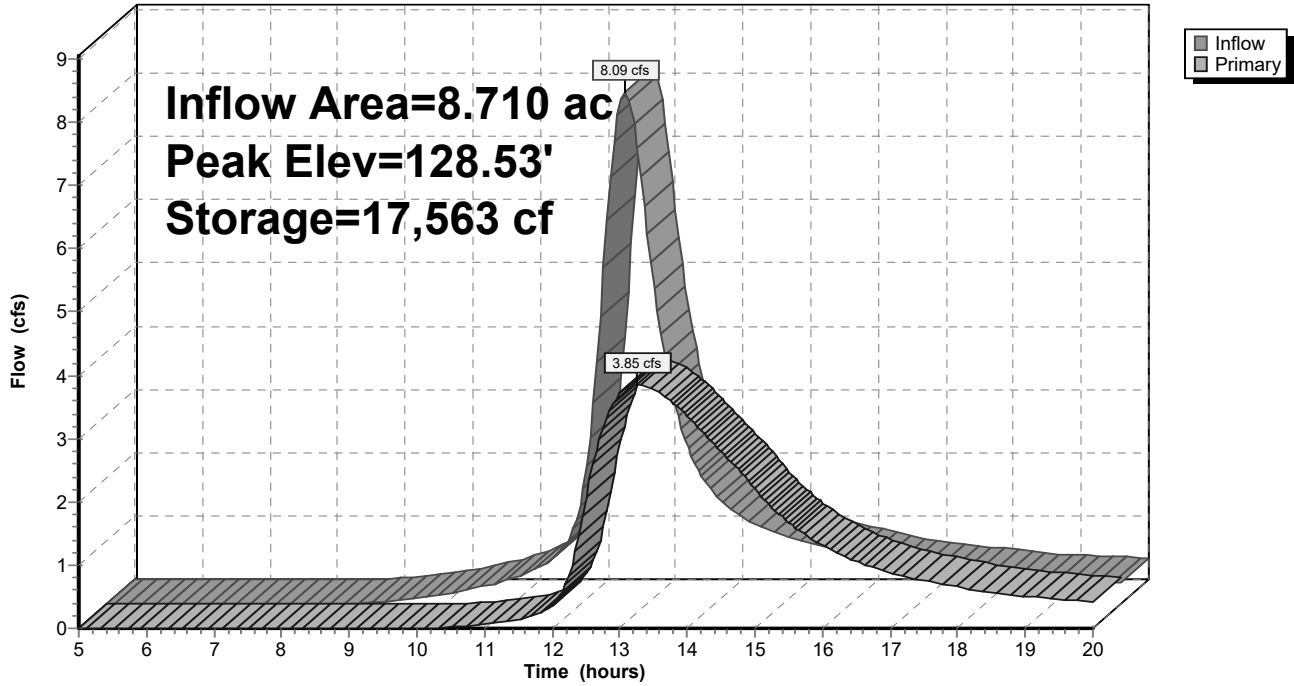
Device	Routing	Invert	Outlet Devices
#1	Primary	127.00'	12.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.85 cfs @ 13.27 hrs HW=128.53' (Free Discharge)

↑**1=Orifice/Grate** (Orifice Controls 3.85 cfs @ 4.90 fps)

Pond 1P: Det Pond-1

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Type III 24-hr 2-Yr Rainfall=3.30"

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Summary for Pond 2P: Culvert Inlet

Inflow Area = 38.230 ac, 3.97% Impervious, Inflow Depth > 1.18" for 2-Yr event
 Inflow = 31.44 cfs @ 12.45 hrs, Volume= 3.755 af
 Outflow = 30.11 cfs @ 12.53 hrs, Volume= 3.749 af, Atten= 4%, Lag= 5.1 min
 Primary = 30.11 cfs @ 12.53 hrs, Volume= 3.749 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 132.34' @ 12.53 hrs Surf.Area= 10,316 sf Storage= 6,546 cf

Plug-Flow detention time= 3.0 min calculated for 3.737 af (100% of inflow)
 Center-of-Mass det. time= 2.4 min (829.8 - 827.4)

Volume	Invert	Avail.Storage	Storage Description
#1	130.50'	94,763 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

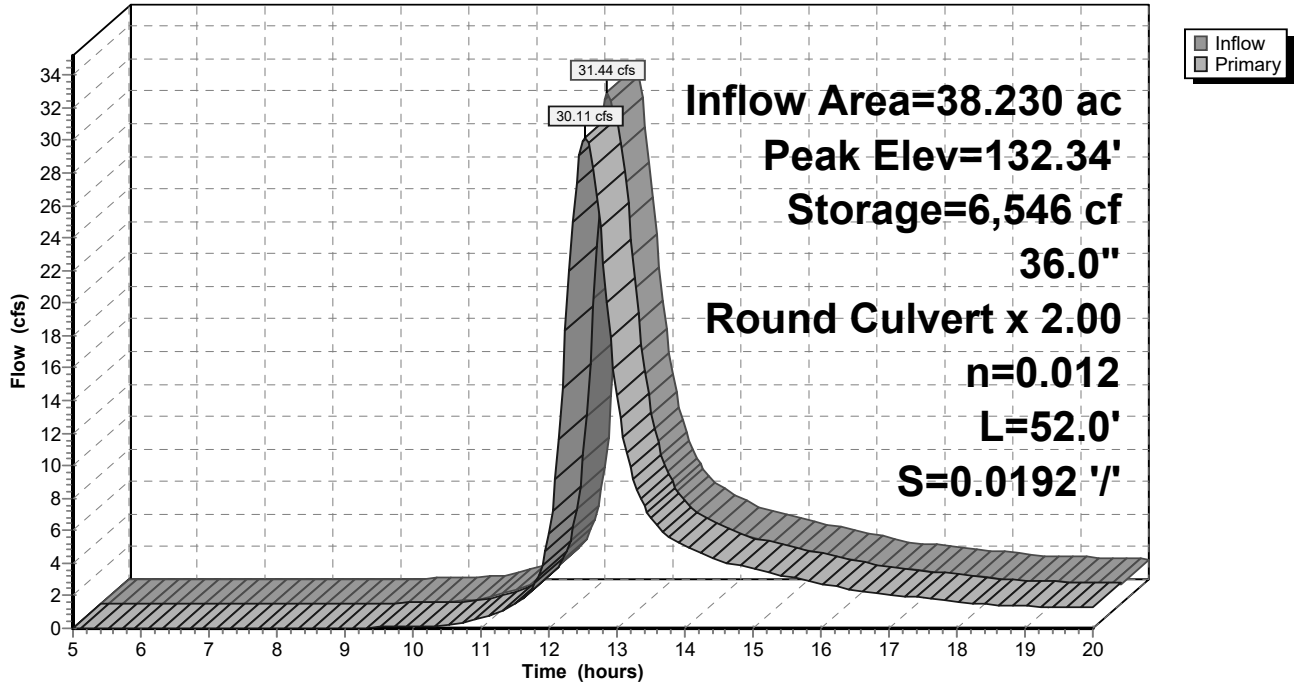
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
130.50	300	0	0
131.00	980	320	320
132.00	5,960	3,470	3,790
133.00	18,820	12,390	16,180
134.00	35,975	27,398	43,578
135.00	66,395	51,185	94,763

Device	Routing	Invert	Outlet Devices
#1	Primary	130.60'	36.0" Round Culvert X 2.00 L= 52.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 130.60' / 129.60' S= 0.0192 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=30.03 cfs @ 12.53 hrs HW=132.34' (Free Discharge)
 ↑**1=Culvert** (Inlet Controls 30.03 cfs @ 3.54 fps)

Pond 2P: Culvert Inlet

Hydrograph



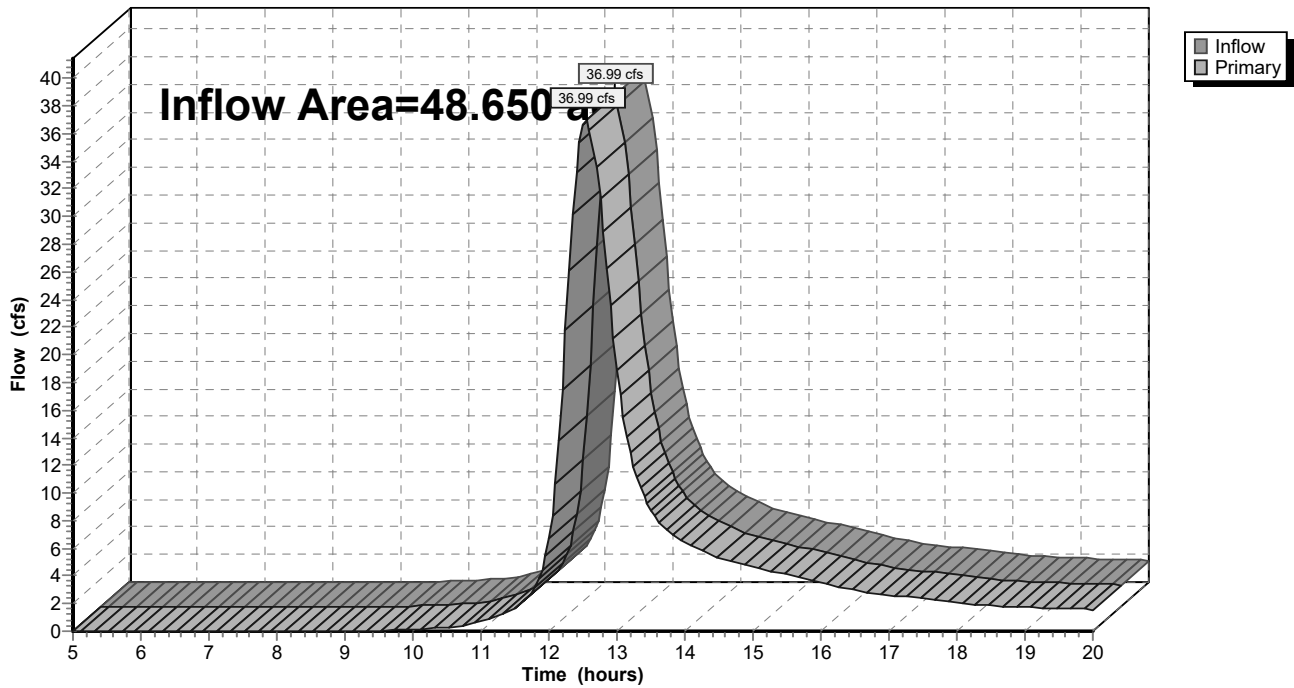
Summary for Link AP-1: Analysis point-1

Inflow Area = 48.650 ac, 5.06% Impervious, Inflow Depth > 1.16" for 2-Yr event
Inflow = 36.99 cfs @ 12.55 hrs, Volume= 4.708 af
Primary = 36.99 cfs @ 12.55 hrs, Volume= 4.708 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP-1: Analysis point-1

Hydrograph



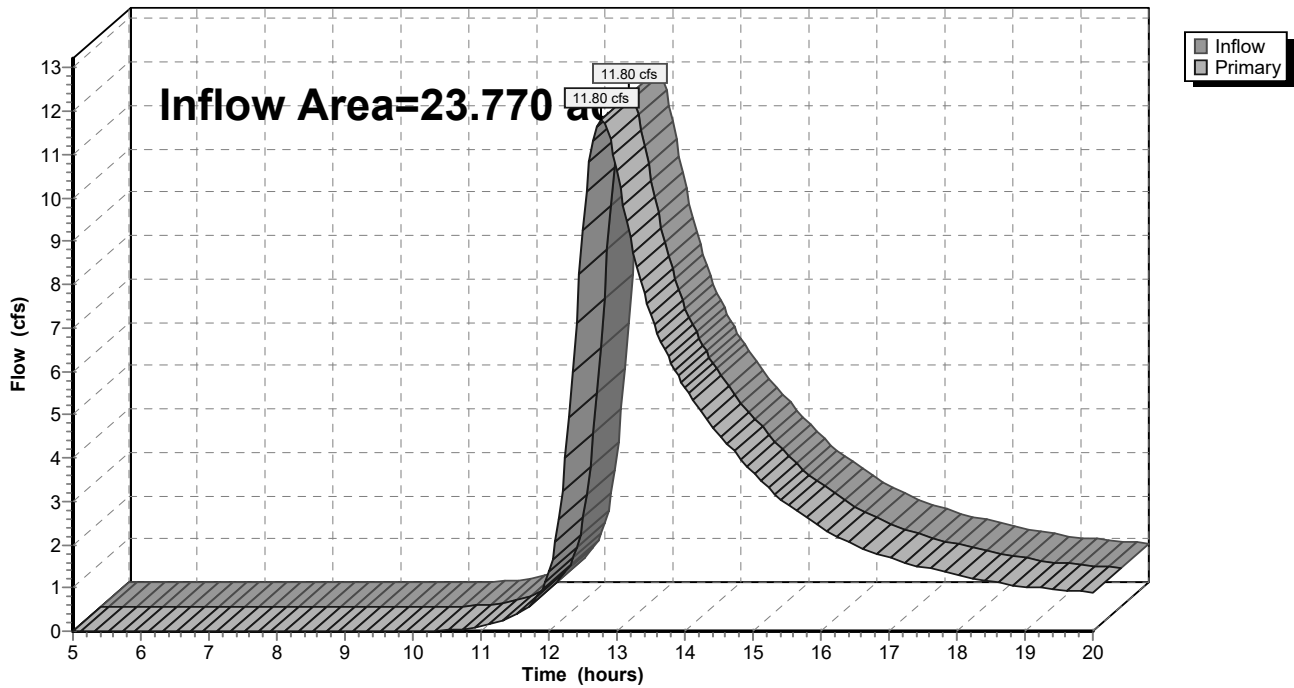
Summary for Link AP-2: Analysis Point-2

Inflow Area = 23.770 ac, 7.33% Impervious, Inflow Depth > 1.22" for 2-Yr event
Inflow = 11.80 cfs @ 12.77 hrs, Volume= 2.407 af
Primary = 11.80 cfs @ 12.77 hrs, Volume= 2.407 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP-2: Analysis Point-2

Hydrograph



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Type III 24-hr 10-Yr Rainfall=4.90"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentPost-1: Post-1	Runoff Area=33.150 ac 1.51% Impervious Runoff Depth>2.26" Flow Length=1,460' Tc=30.2 min CN=76 Runoff=53.46 cfs 6.239 af
SubcatchmentPost-2: Post-2	Runoff Area=15.060 ac 0.00% Impervious Runoff Depth>2.16" Flow Length=2,120' Tc=49.3 min CN=75 Runoff=18.29 cfs 2.712 af
SubcatchmentPost-3: Post-3	Runoff Area=8.710 ac 20.00% Impervious Runoff Depth>2.94" Flow Length=685' Tc=47.7 min CN=84 Runoff=14.52 cfs 2.137 af
SubcatchmentPost-4: Post-4	Runoff Area=3.710 ac 20.00% Impervious Runoff Depth>2.96" Flow Length=535' Tc=35.1 min CN=84 Runoff=7.23 cfs 0.914 af
SubcatchmentPost-5: Post-5	Runoff Area=1.370 ac 20.00% Impervious Runoff Depth>2.96" Flow Length=380' Tc=26.7 min CN=84 Runoff=3.03 cfs 0.338 af
SubcatchmentPost-6: Post-6	Runoff Area=2.240 ac 20.00% Impervious Runoff Depth>2.96" Flow Length=350' Tc=31.0 min CN=84 Runoff=4.63 cfs 0.553 af
SubcatchmentPost-7: Post-7	Runoff Area=2.460 ac 0.00% Impervious Runoff Depth>2.35" Flow Length=285' Tc=20.8 min CN=77 Runoff=4.83 cfs 0.482 af
SubcatchmentPost-8: Post-8	Runoff Area=5.720 ac 8.74% Impervious Runoff Depth>1.94" Flow Length=865' Tc=25.2 min CN=72 Runoff=8.55 cfs 0.926 af
Reach Reach-1: Stream	Avg. Flow Depth=1.97' Max Vel=4.82 fps Inflow=56.64 cfs 7.484 af n=0.040 L=430.0' S=0.0128 '/' Capacity=58.28 cfs Outflow=56.46 cfs 7.467 af
Pond 1P: Det Pond-1	Peak Elev=129.80' Storage=34,364 cf Inflow=14.52 cfs 2.137 af Outflow=5.73 cfs 2.036 af
Pond 2P: Culvert Inlet	Peak Elev=133.21' Storage=20,466 cf Inflow=63.51 cfs 7.491 af 36.0" Round Culvert x 2.00 n=0.012 L=52.0' S=0.0192 '/' Outflow=56.64 cfs 7.484 af
Link AP-1: Analysis point-1	Inflow=69.83 cfs 9.427 af Primary=69.83 cfs 9.427 af
Link AP-2: Analysis Point-2	Inflow=22.96 cfs 4.747 af Primary=22.96 cfs 4.747 af

Total Runoff Area = 72.420 ac Runoff Volume = 14.301 af Average Runoff Depth = 2.37"
94.19% Pervious = 68.214 ac 5.81% Impervious = 4.206 ac

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Type III 24-hr 10-Yr Rainfall=4.90"

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Summary for Subcatchment Post-1: Post-1

Runoff = 53.46 cfs @ 12.43 hrs, Volume= 6.239 af, Depth> 2.26"

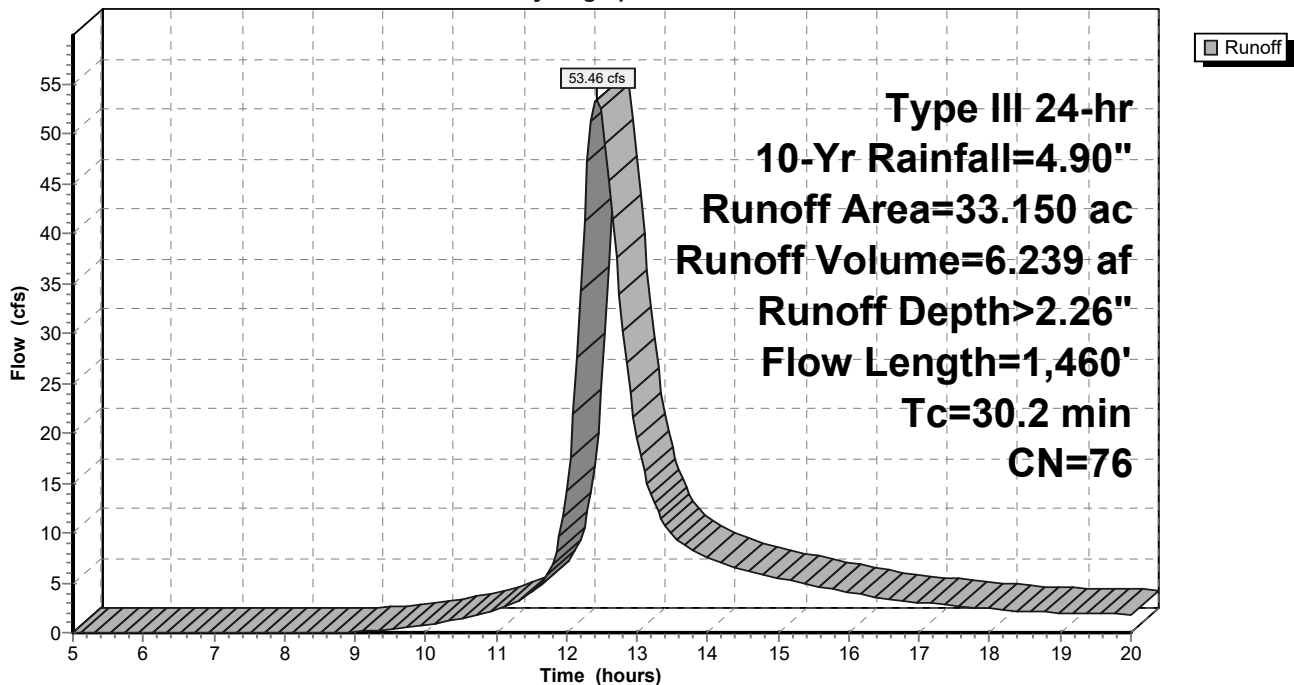
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Yr Rainfall=4.90"

Area (ac)	CN	Description
* 0.500	98	Impervious
8.090	70	Woods, Good, HSG C
24.560	77	Woods, Good, HSG D
33.150	76	Weighted Average
32.650		98.49% Pervious Area
0.500		1.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.1	100	0.0200	0.08		Sheet Flow, Post-1A Woods: Light underbrush n= 0.400 P2= 3.30"
6.3	380	0.0400	1.00		Shallow Concentrated Flow, Post-1B Woodland Kv= 5.0 fps
2.8	980	0.0190	5.78	34.70	Channel Flow, Post-1C Area= 6.0 sf Perim= 5.0' r= 1.20' n= 0.040 Winding stream, pools & shoals
30.2	1,460	Total			

Subcatchment Post-1: Post-1

Hydrograph



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Type III 24-hr 10-Yr Rainfall=4.90"

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Summary for Subcatchment Post-2: Post-2

Runoff = 18.29 cfs @ 12.68 hrs, Volume= 2.712 af, Depth> 2.16"

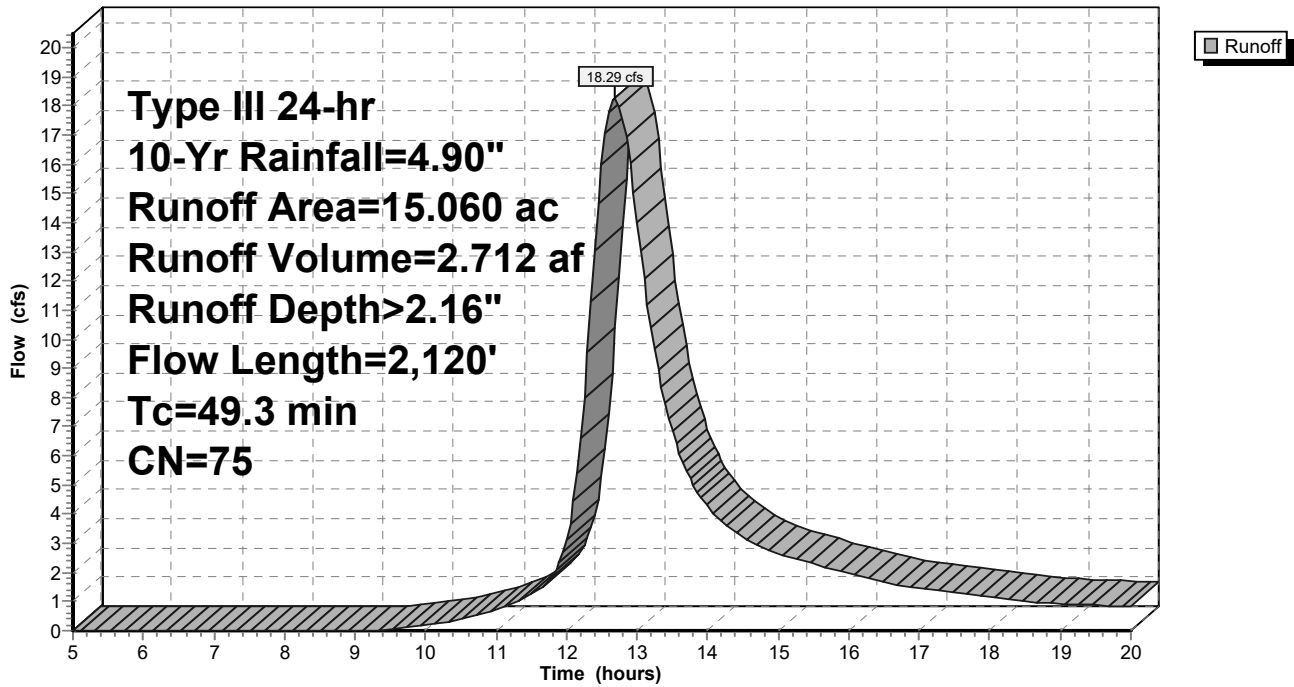
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Yr Rainfall=4.90"

Area (ac)	CN	Description
5.330	70	Woods, Good, HSG C
9.730	77	Woods, Good, HSG D
15.060	75	Weighted Average
15.060		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.1290	0.17		Sheet Flow, Post-2A
38.4	1,820	0.0250	0.79		Woods: Light underbrush n= 0.400 P2= 3.30" Shallow Concentrated Flow, Post-2B
0.9	200	0.0250	3.85	23.07	Woodland Kv= 5.0 fps Channel Flow, Post-2C
					Area= 6.0 sf Perim= 5.0' r= 1.20' n= 0.069 Riprap, 6-inch
49.3	2,120	Total			

Subcatchment Post-2: Post-2

Hydrograph



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Type III 24-hr 10-Yr Rainfall=4.90"

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Summary for Subcatchment Post-3: Post-3

Runoff = 14.52 cfs @ 12.65 hrs, Volume= 2.137 af, Depth> 2.94"

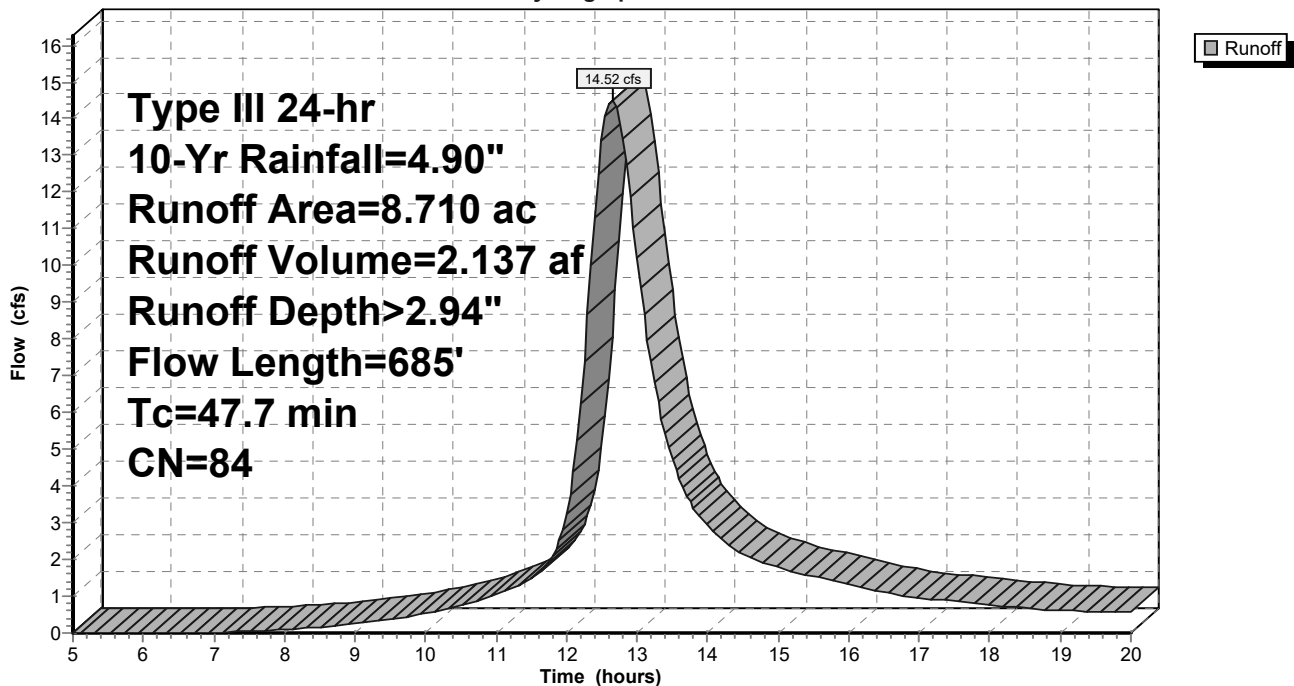
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Yr Rainfall=4.90"

Area (ac)	CN	Description
8.710	84	1 acre lots, 20% imp, HSG D
6.968		80.00% Pervious Area
1.742		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.4	100	0.0140	0.07		Sheet Flow, Post-3A
23.3	585	0.0070	0.42		Shallow Concentrated Flow, Post-3B
					Woodland Kv= 5.0 fps
47.7	685	Total			

Subcatchment Post-3: Post-3

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Type III 24-hr 10-Yr Rainfall=4.90"

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Summary for Subcatchment Post-4: Post-4

Runoff = 7.23 cfs @ 12.48 hrs, Volume= 0.914 af, Depth> 2.96"

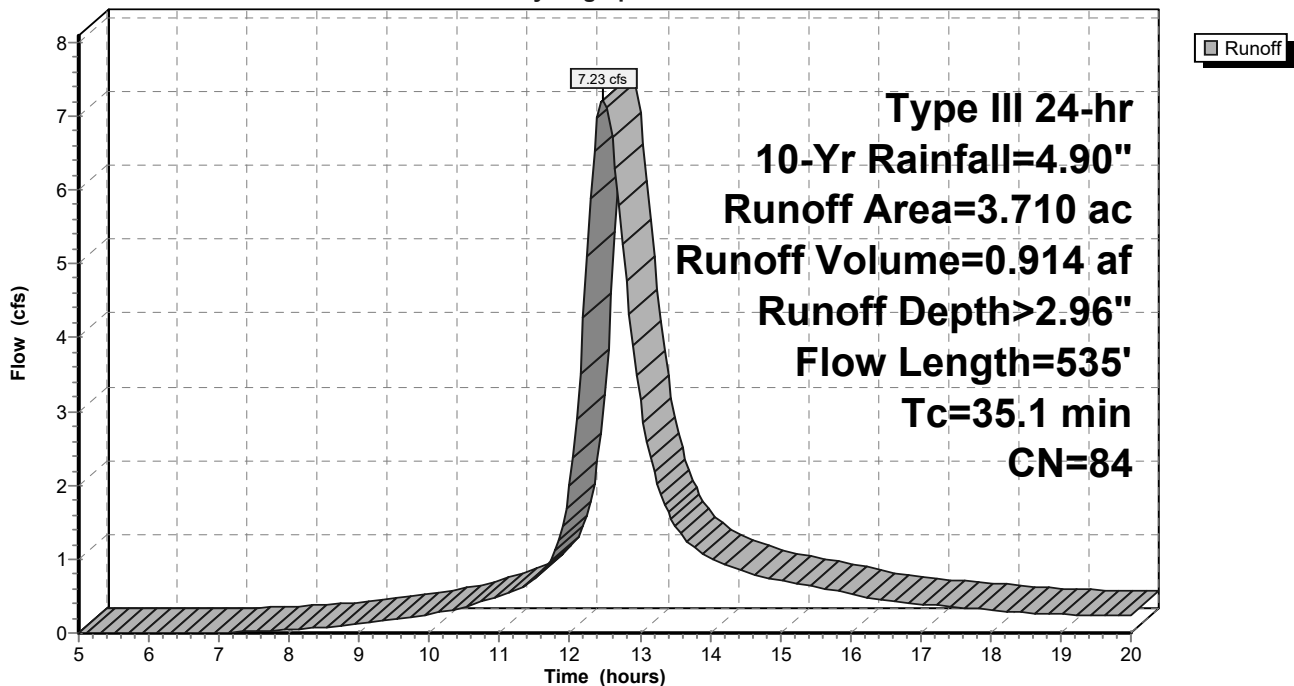
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Yr Rainfall=4.90"

Area (ac)	CN	Description
3.710	84	1 acre lots, 20% imp, HSG D
2.968		80.00% Pervious Area
0.742		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.1	100	0.0130	0.07		Sheet Flow, Post-4A
					Woods: Light underbrush n= 0.400 P2= 3.30"
10.0	435	0.0210	0.72		Shallow Concentrated Flow, Post-4B
					Woodland Kv= 5.0 fps
35.1	535	Total			

Subcatchment Post-4: Post-4

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Type III 24-hr 10-Yr Rainfall=4.90"

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Summary for Subcatchment Post-5: Post-5

Runoff = 3.03 cfs @ 12.37 hrs, Volume= 0.338 af, Depth> 2.96"

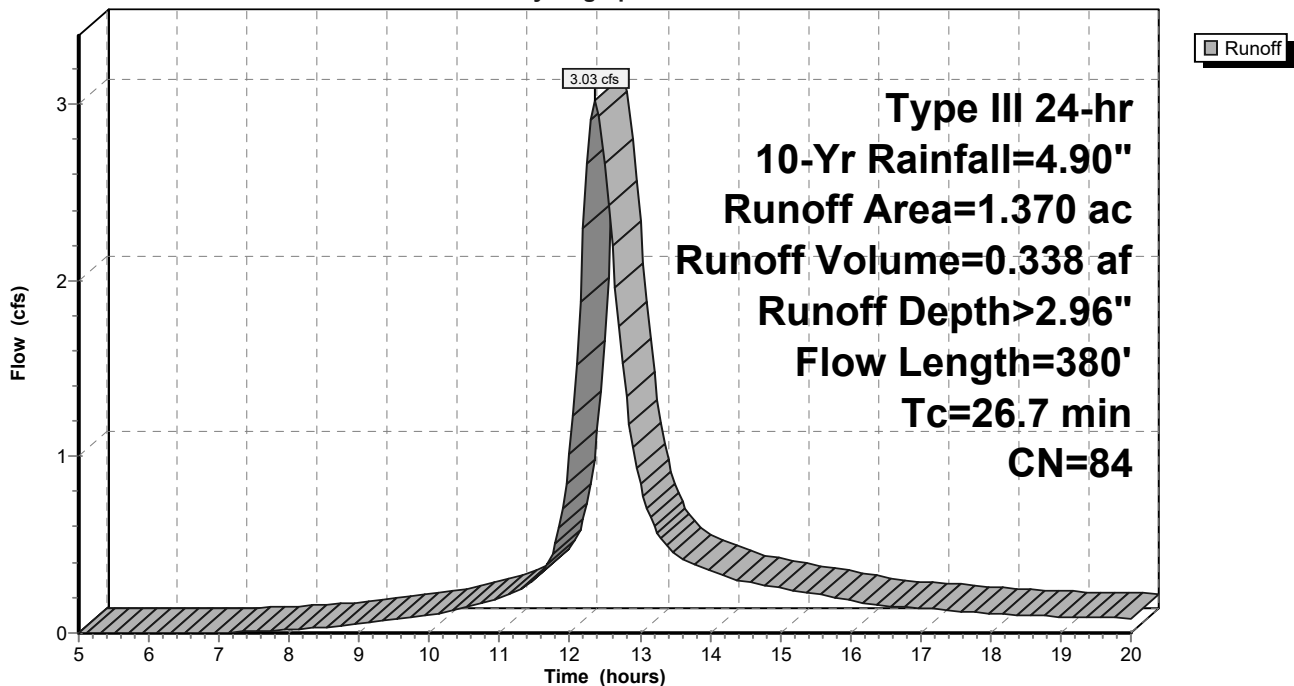
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Yr Rainfall=4.90"

Area (ac)	CN	Description
1.370	84	1 acre lots, 20% imp, HSG D
1.096		80.00% Pervious Area
0.274		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	100	0.0500	0.11		Sheet Flow, Post-5A
					Woods: Light underbrush n= 0.400 P2= 3.30"
12.0	280	0.0060	0.39		Shallow Concentrated Flow, Post-5B
					Woodland Kv= 5.0 fps
26.7	380	Total			

Subcatchment Post-5: Post-5

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Type III 24-hr 10-Yr Rainfall=4.90"

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Summary for Subcatchment Post-6: Post-6

Runoff = 4.63 cfs @ 12.43 hrs, Volume= 0.553 af, Depth> 2.96"

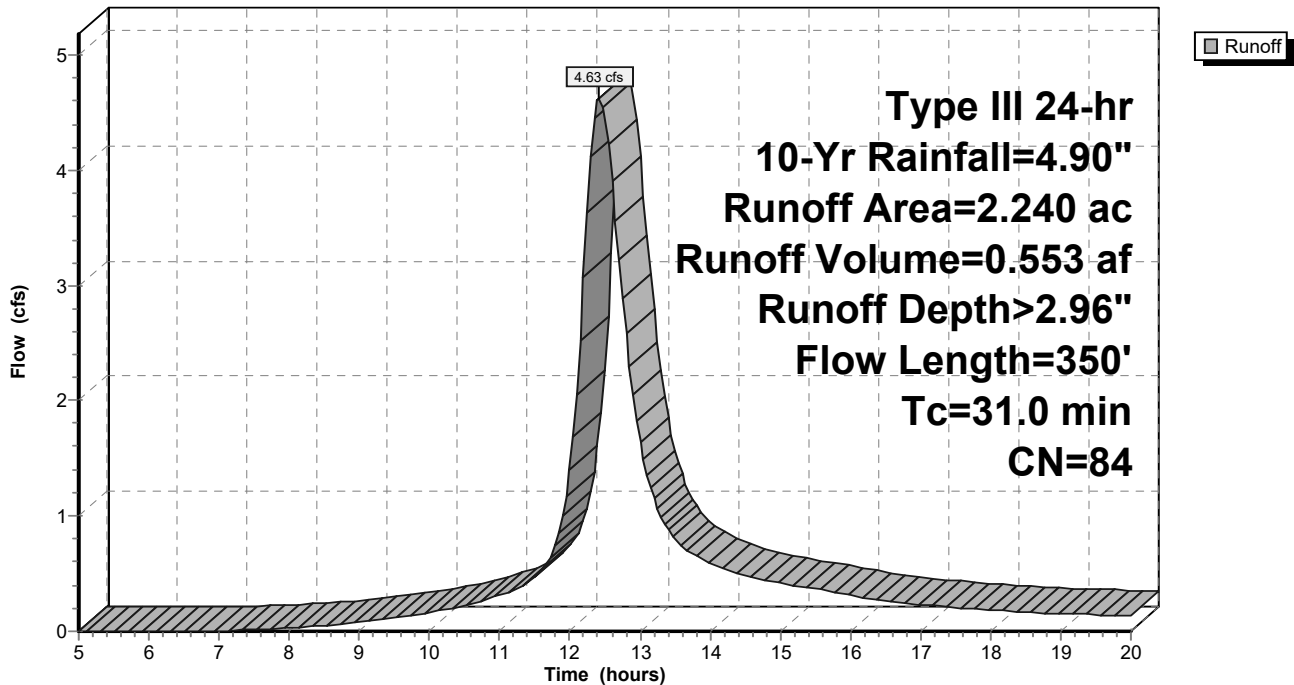
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Yr Rainfall=4.90"

Area (ac)	CN	Description
2.240	84	1 acre lots, 20% imp, HSG D
1.792		80.00% Pervious Area
0.448		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.9	100	0.0100	0.06		Sheet Flow, Post-4A Woods: Light underbrush n= 0.400 P2= 3.30"
2.8	150	0.0330	0.91		Shallow Concentrated Flow, Post-4B Woodland Kv= 5.0 fps
0.3	100	0.0100	4.79	28.77	Channel Flow, Post-4C Area= 6.0 sf Perim= 5.0' r= 1.20' n= 0.035 Earth, dense weeds
31.0	350	Total			

Subcatchment Post-6: Post-6

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Type III 24-hr 10-Yr Rainfall=4.90"

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Summary for Subcatchment Post-7: Post-7

Runoff = 4.83 cfs @ 12.29 hrs, Volume= 0.482 af, Depth> 2.35"

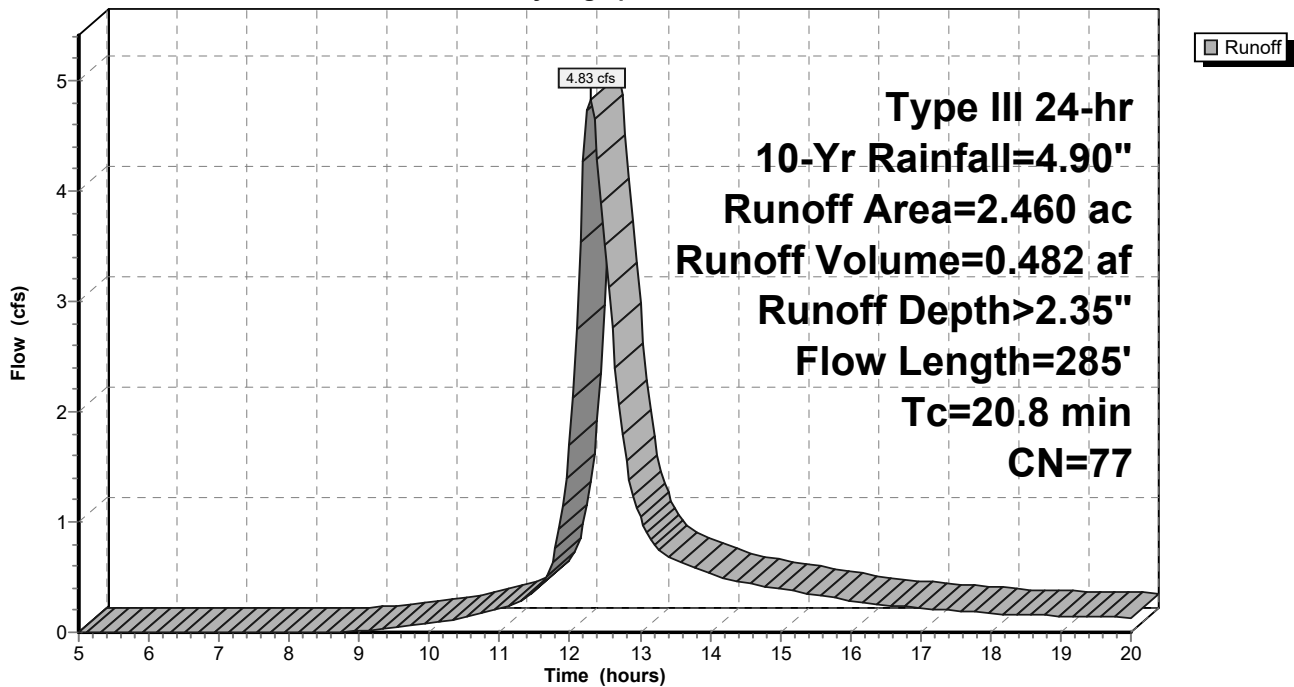
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Yr Rainfall=4.90"

Area (ac)	CN	Description
2.460	77	Woods, Good, HSG D
2.460		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.0	100	0.0300	0.09		Sheet Flow, Post-7A
					Woods: Light underbrush n= 0.400 P2= 3.30"
2.8	185	0.0500	1.12		Shallow Concentrated Flow, Post-7B
					Woodland Kv= 5.0 fps
20.8	285	Total			

Subcatchment Post-7: Post-7

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Type III 24-hr 10-Yr Rainfall=4.90"

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Summary for Subcatchment Post-8: Post-8

Runoff = 8.55 cfs @ 12.36 hrs, Volume= 0.926 af, Depth> 1.94"

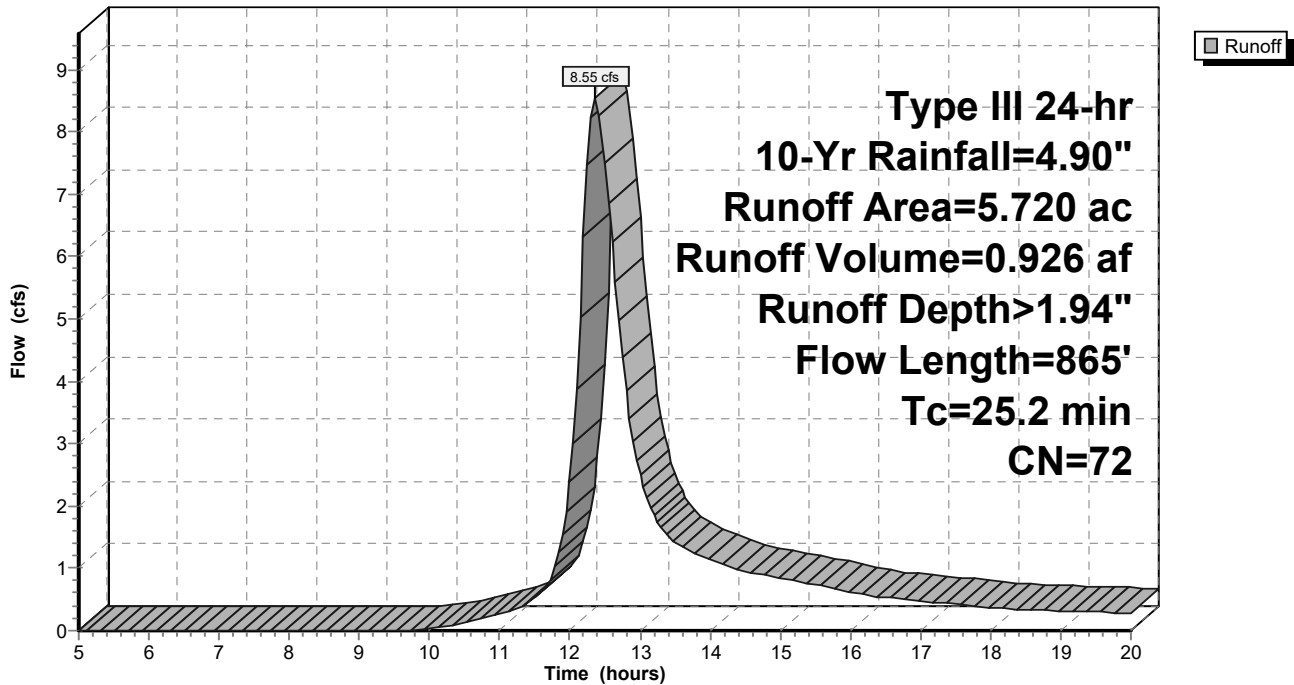
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Yr Rainfall=4.90"

Area (ac)	CN	Description
* 0.500	98	Impervious
5.220	70	Woods, Good, HSG C
5.720	72	Weighted Average
5.220		91.26% Pervious Area
0.500		8.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.0	100	0.0400	0.10		Sheet Flow, Post-8A
					Woods: Light underbrush n= 0.400 P2= 3.30"
9.2	765	0.0770	1.39		Shallow Concentrated Flow, Post-8B
					Woodland Kv= 5.0 fps
25.2	865	Total			

Subcatchment Post-8: Post-8

Hydrograph



Summary for Reach Reach-1: Stream

Inflow Area = 38.230 ac, 3.97% Impervious, Inflow Depth > 2.35" for 10-Yr event
 Inflow = 56.64 cfs @ 12.57 hrs, Volume= 7.484 af
 Outflow = 56.46 cfs @ 12.62 hrs, Volume= 7.467 af, Atten= 0%, Lag= 2.6 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 4.82 fps, Min. Travel Time= 1.5 min
 Avg. Velocity = 2.07 fps, Avg. Travel Time= 3.5 min

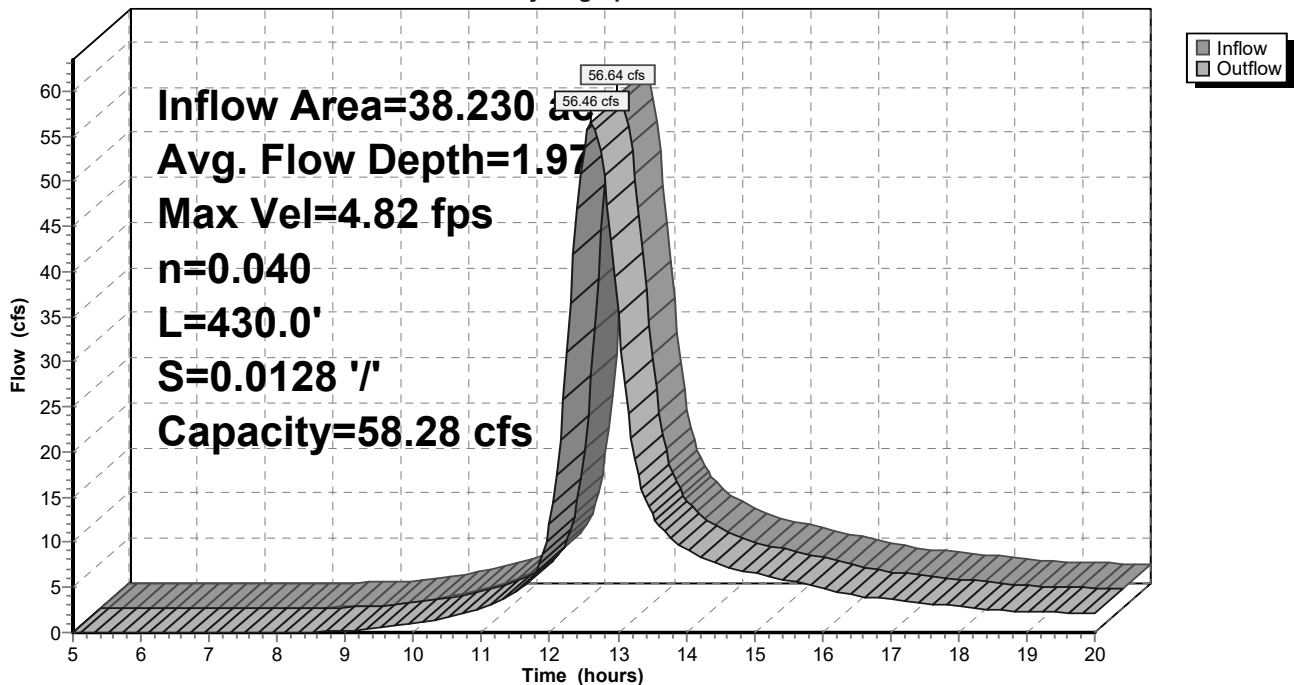
Peak Storage= 5,050 cf @ 12.59 hrs
 Average Depth at Peak Storage= 1.97' , Surface Width= 7.94'
 Bank-Full Depth= 2.00' Flow Area= 12.0 sf, Capacity= 58.28 cfs

4.00' x 2.00' deep channel, n= 0.040 Winding stream, pools & shoals
 Side Slope Z-value= 1.0 ' / ' Top Width= 8.00'
 Length= 430.0' Slope= 0.0128 ' / '
 Inlet Invert= 129.60', Outlet Invert= 124.10'



Reach Reach-1: Stream

Hydrograph



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Type III 24-hr 10-Yr Rainfall=4.90"

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Summary for Pond 1P: Det Pond-1

Inflow Area = 8.710 ac, 20.00% Impervious, Inflow Depth > 2.94" for 10-Yr event
 Inflow = 14.52 cfs @ 12.65 hrs, Volume= 2.137 af
 Outflow = 5.73 cfs @ 13.36 hrs, Volume= 2.036 af, Atten= 61%, Lag= 42.9 min
 Primary = 5.73 cfs @ 13.36 hrs, Volume= 2.036 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 129.80' @ 13.36 hrs Surf.Area= 14,145 sf Storage= 34,364 cf

Plug-Flow detention time= 85.0 min calculated for 2.036 af (95% of inflow)
 Center-of-Mass det. time= 68.8 min (880.4 - 811.5)

Volume	Invert	Avail.Storage	Storage Description
#1	127.00'	68,960 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
127.00	10,480	0	0
128.00	11,730	11,105	11,105
129.00	13,050	12,390	23,495
130.00	14,420	13,735	37,230
131.00	15,850	15,135	52,365
132.00	17,340	16,595	68,960

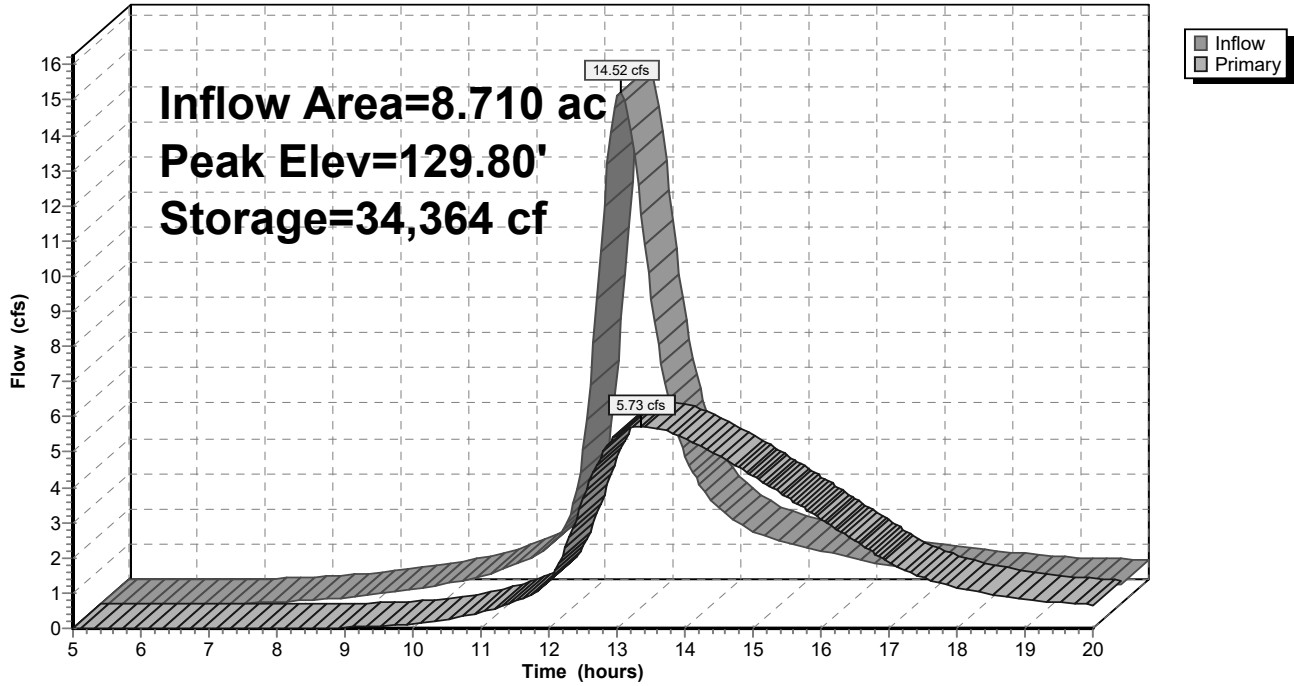
Device	Routing	Invert	Outlet Devices
#1	Primary	127.00'	12.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=5.73 cfs @ 13.36 hrs HW=129.80' (Free Discharge)

↑**1=Orifice/Grate** (Orifice Controls 5.73 cfs @ 7.30 fps)

Pond 1P: Det Pond-1

Hydrograph



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Type III 24-hr 10-Yr Rainfall=4.90"

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Summary for Pond 2P: Culvert Inlet

Inflow Area = 38.230 ac, 3.97% Impervious, Inflow Depth > 2.35" for 10-Yr event
 Inflow = 63.51 cfs @ 12.43 hrs, Volume= 7.491 af
 Outflow = 56.64 cfs @ 12.57 hrs, Volume= 7.484 af, Atten= 11%, Lag= 8.6 min
 Primary = 56.64 cfs @ 12.57 hrs, Volume= 7.484 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 133.21' @ 12.57 hrs Surf.Area= 22,388 sf Storage= 20,466 cf

Plug-Flow detention time= 3.8 min calculated for 7.484 af (100% of inflow)
 Center-of-Mass det. time= 3.4 min (816.0 - 812.6)

Volume	Invert	Avail.Storage	Storage Description
#1	130.50'	94,763 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

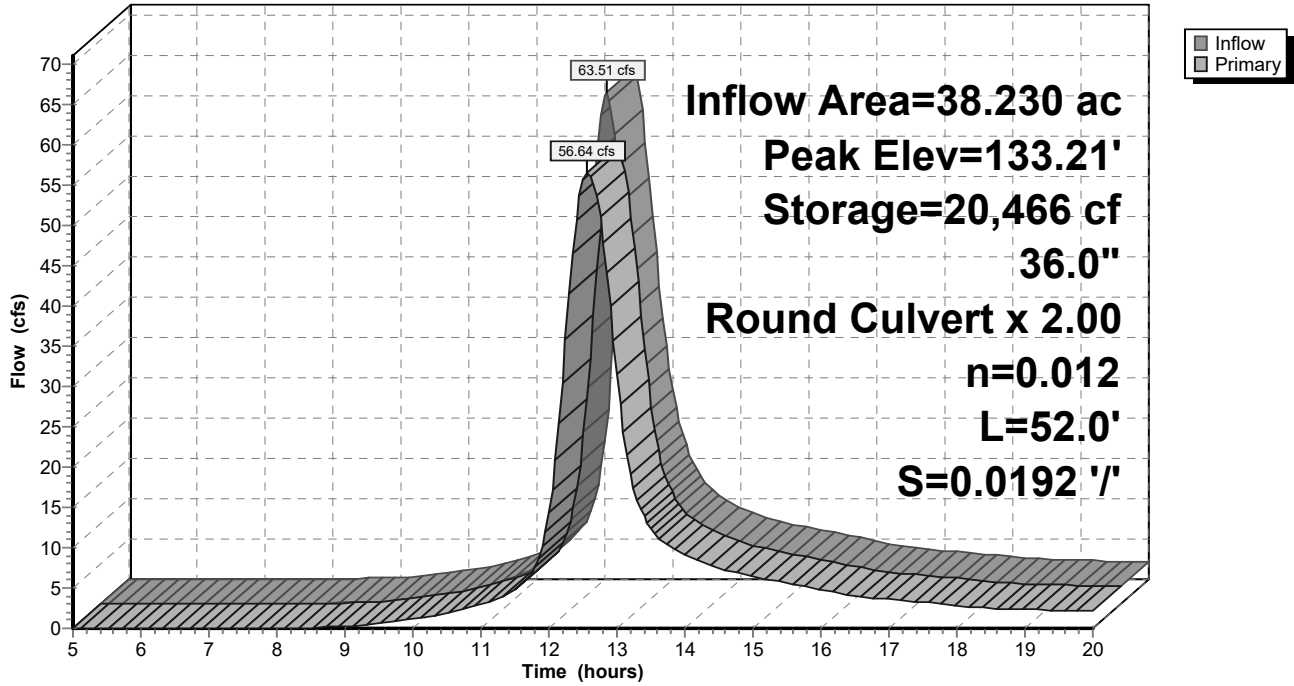
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
130.50	300	0	0
131.00	980	320	320
132.00	5,960	3,470	3,790
133.00	18,820	12,390	16,180
134.00	35,975	27,398	43,578
135.00	66,395	51,185	94,763

Device	Routing	Invert	Outlet Devices
#1	Primary	130.60'	36.0" Round Culvert X 2.00 L= 52.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 130.60' / 129.60' S= 0.0192 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=56.52 cfs @ 12.57 hrs HW=133.20' (Free Discharge)
 ↑1=Culvert (Inlet Controls 56.52 cfs @ 4.34 fps)

Pond 2P: Culvert Inlet

Hydrograph



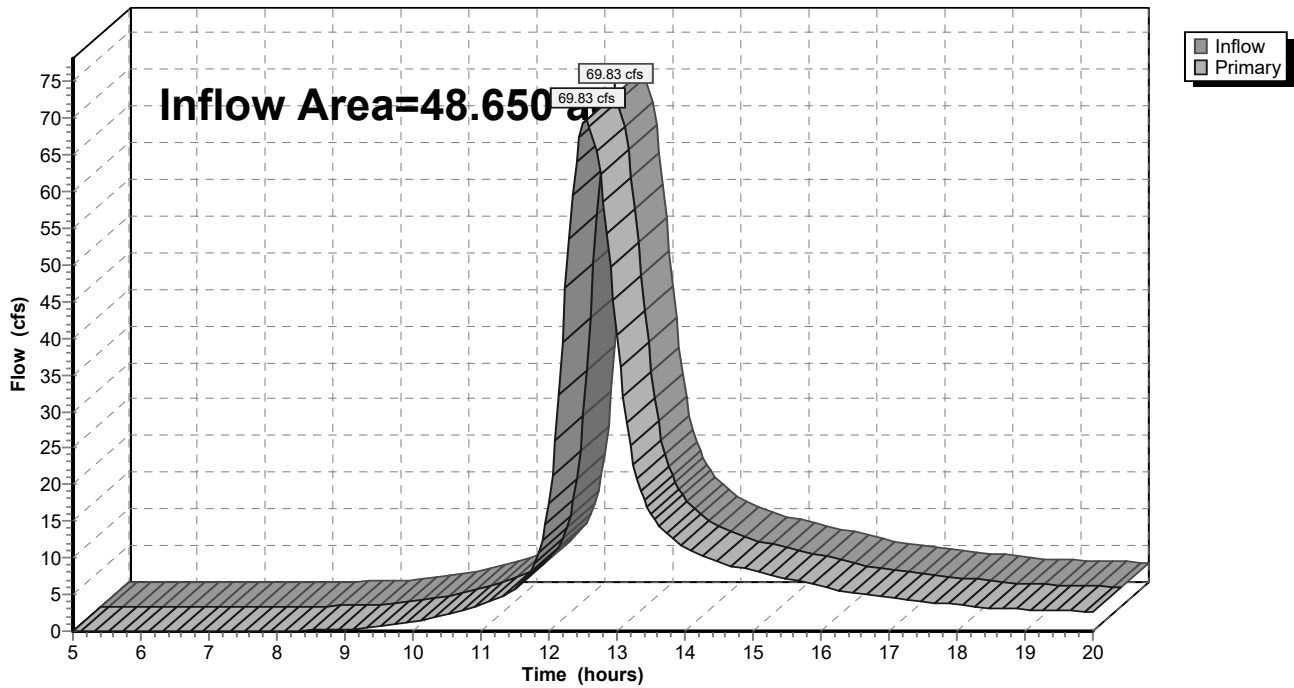
Summary for Link AP-1: Analysis point-1

Inflow Area = 48.650 ac, 5.06% Impervious, Inflow Depth > 2.33" for 10-Yr event
Inflow = 69.83 cfs @ 12.55 hrs, Volume= 9.427 af
Primary = 69.83 cfs @ 12.55 hrs, Volume= 9.427 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP-1: Analysis point-1

Hydrograph



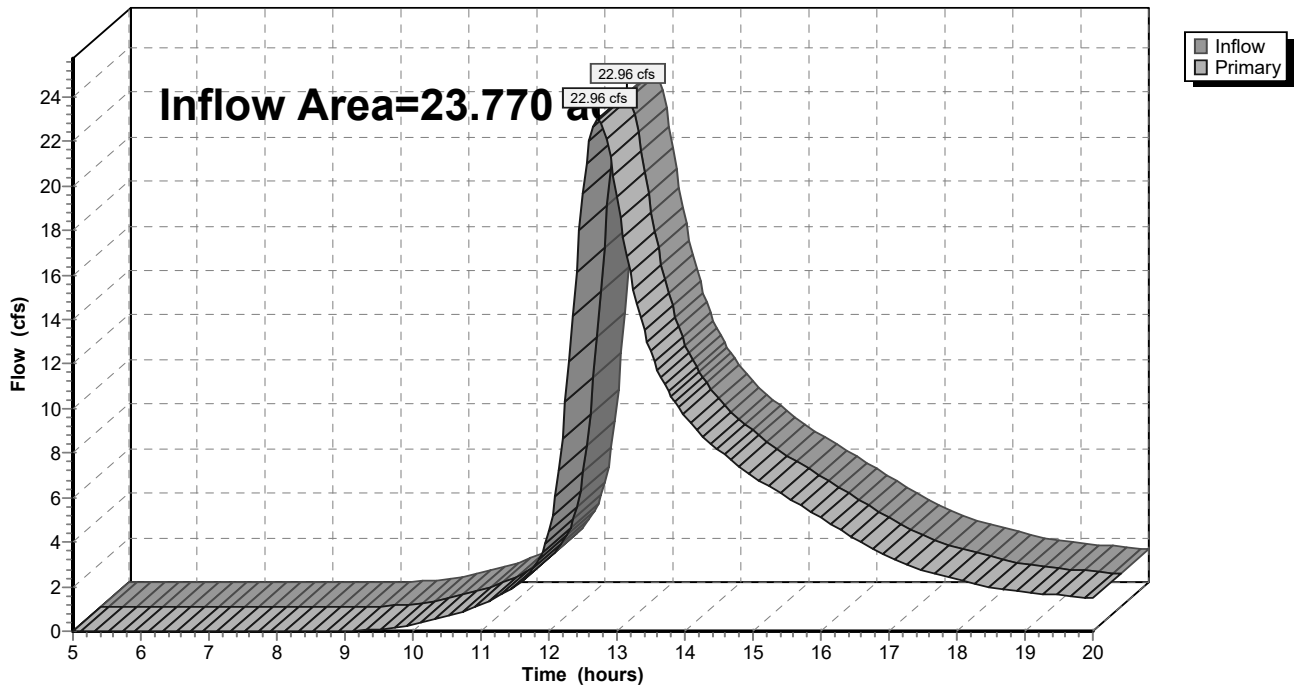
Summary for Link AP-2: Analysis Point-2

Inflow Area = 23.770 ac, 7.33% Impervious, Inflow Depth > 2.40" for 10-Yr event
Inflow = 22.96 cfs @ 12.72 hrs, Volume= 4.747 af
Primary = 22.96 cfs @ 12.72 hrs, Volume= 4.747 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP-2: Analysis Point-2

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Type III 24-hr 25-Yr Rainfall=6.20"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentPost-1: Post-1 Runoff Area=33.150 ac 1.51% Impervious Runoff Depth>3.29"
Flow Length=1,460' Tc=30.2 min CN=76 Runoff=77.76 cfs 9.092 af

SubcatchmentPost-2: Post-2 Runoff Area=15.060 ac 0.00% Impervious Runoff Depth>3.17"
Flow Length=2,120' Tc=49.3 min CN=75 Runoff=26.87 cfs 3.981 af

SubcatchmentPost-3: Post-3 Runoff Area=8.710 ac 20.00% Impervious Runoff Depth>4.08"
Flow Length=685' Tc=47.7 min CN=84 Runoff=19.87 cfs 2.960 af

SubcatchmentPost-4: Post-4 Runoff Area=3.710 ac 20.00% Impervious Runoff Depth>4.09"
Flow Length=535' Tc=35.1 min CN=84 Runoff=9.89 cfs 1.266 af

SubcatchmentPost-5: Post-5 Runoff Area=1.370 ac 20.00% Impervious Runoff Depth>4.10"
Flow Length=380' Tc=26.7 min CN=84 Runoff=4.14 cfs 0.469 af

SubcatchmentPost-6: Post-6 Runoff Area=2.240 ac 20.00% Impervious Runoff Depth>4.10"
Flow Length=350' Tc=31.0 min CN=84 Runoff=6.33 cfs 0.765 af

SubcatchmentPost-7: Post-7 Runoff Area=2.460 ac 0.00% Impervious Runoff Depth>3.40"
Flow Length=285' Tc=20.8 min CN=77 Runoff=6.97 cfs 0.697 af

SubcatchmentPost-8: Post-8 Runoff Area=5.720 ac 8.74% Impervious Runoff Depth>2.91"
Flow Length=865' Tc=25.2 min CN=72 Runoff=12.89 cfs 1.389 af

Reach Reach-1: Stream Avg. Flow Depth=2.28' Max Vel=5.14 fps Inflow=72.95 cfs 10.816 af
n=0.040 L=430.0' S=0.0128 '/' Capacity=58.28 cfs Outflow=72.83 cfs 10.796 af

Pond 1P: Det Pond-1 Peak Elev=130.85' Storage=49,936 cf Inflow=19.87 cfs 2.960 af
Outflow=6.92 cfs 2.840 af

Pond 2P: Culvert Inlet Peak Elev=133.94' Storage=41,555 cf Inflow=91.51 cfs 10.826 af
36.0" Round Culvert x 2.00 n=0.012 L=52.0' S=0.0192 '/' Outflow=72.95 cfs 10.816 af

Link AP-1: Analysis point-1 Inflow=90.89 cfs 13.647 af
Primary=90.89 cfs 13.647 af

Link AP-2: Analysis Point-2 Inflow=32.43 cfs 6.821 af
Primary=32.43 cfs 6.821 af

Total Runoff Area = 72.420 ac Runoff Volume = 20.618 af Average Runoff Depth = 3.42"
94.19% Pervious = 68.214 ac 5.81% Impervious = 4.206 ac

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Type III 24-hr 25-Yr Rainfall=6.20"

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Summary for Subcatchment Post-1: Post-1

Runoff = 77.76 cfs @ 12.42 hrs, Volume= 9.092 af, Depth> 3.29"

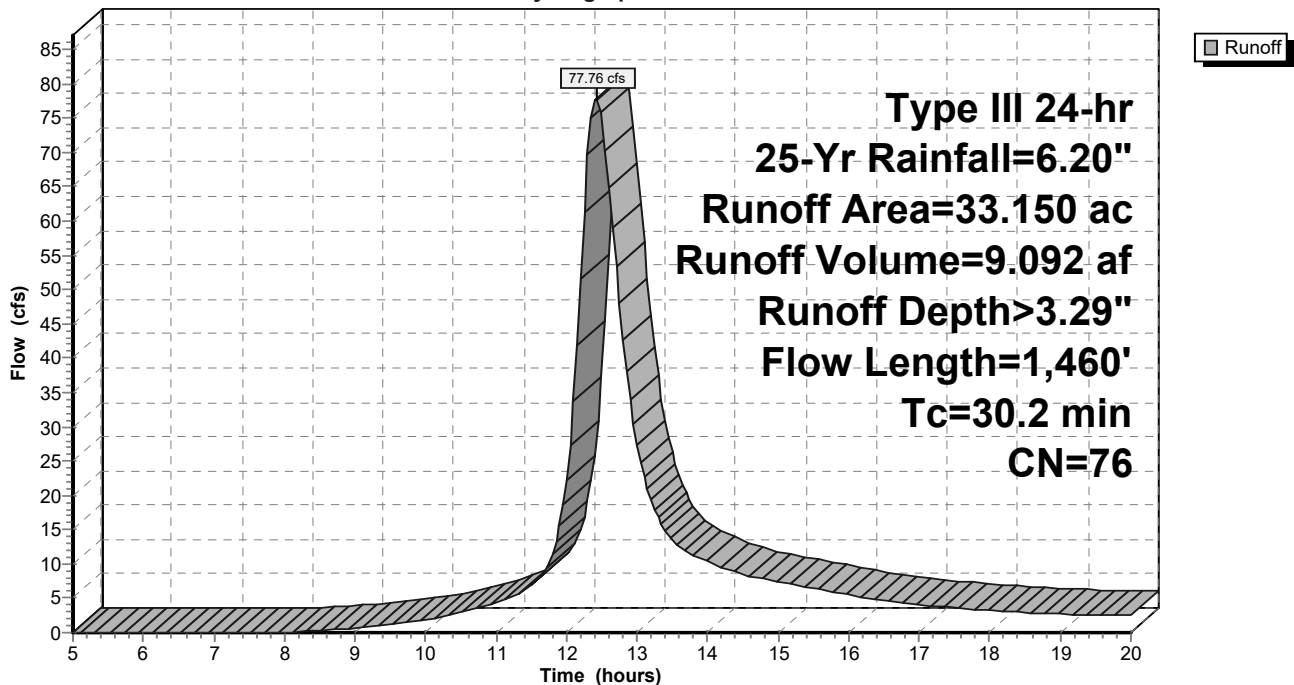
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Yr Rainfall=6.20"

Area (ac)	CN	Description
* 0.500	98	Impervious
8.090	70	Woods, Good, HSG C
24.560	77	Woods, Good, HSG D
33.150	76	Weighted Average
32.650		98.49% Pervious Area
0.500		1.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.1	100	0.0200	0.08		Sheet Flow, Post-1A Woods: Light underbrush n= 0.400 P2= 3.30"
6.3	380	0.0400	1.00		Shallow Concentrated Flow, Post-1B Woodland Kv= 5.0 fps
2.8	980	0.0190	5.78	34.70	Channel Flow, Post-1C Area= 6.0 sf Perim= 5.0' r= 1.20' n= 0.040 Winding stream, pools & shoals
30.2	1,460	Total			

Subcatchment Post-1: Post-1

Hydrograph



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Type III 24-hr 25-Yr Rainfall=6.20"

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Summary for Subcatchment Post-2: Post-2

Runoff = 26.87 cfs @ 12.67 hrs, Volume= 3.981 af, Depth> 3.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Yr Rainfall=6.20"

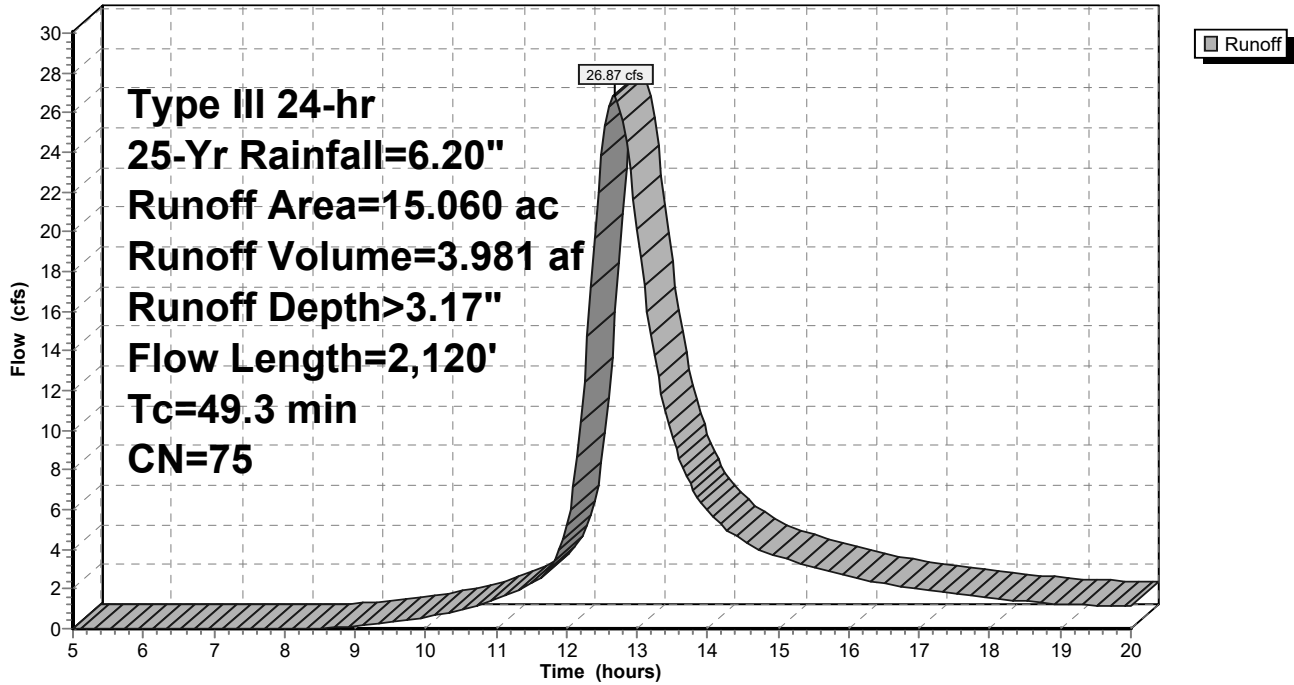
Area (ac)	CN	Description
5.330	70	Woods, Good, HSG C
9.730	77	Woods, Good, HSG D
15.060	75	Weighted Average
15.060		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.1290	0.17		Sheet Flow, Post-2A
38.4	1,820	0.0250	0.79		Woods: Light underbrush n= 0.400 P2= 3.30" Shallow Concentrated Flow, Post-2B
0.9	200	0.0250	3.85	23.07	Woodland Kv= 5.0 fps Channel Flow, Post-2C
					Area= 6.0 sf Perim= 5.0' r= 1.20' n= 0.069 Riprap, 6-inch

49.3 2,120 Total

Subcatchment Post-2: Post-2

Hydrograph



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Type III 24-hr 25-Yr Rainfall=6.20"

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Summary for Subcatchment Post-3: Post-3

Runoff = 19.87 cfs @ 12.64 hrs, Volume= 2.960 af, Depth> 4.08"

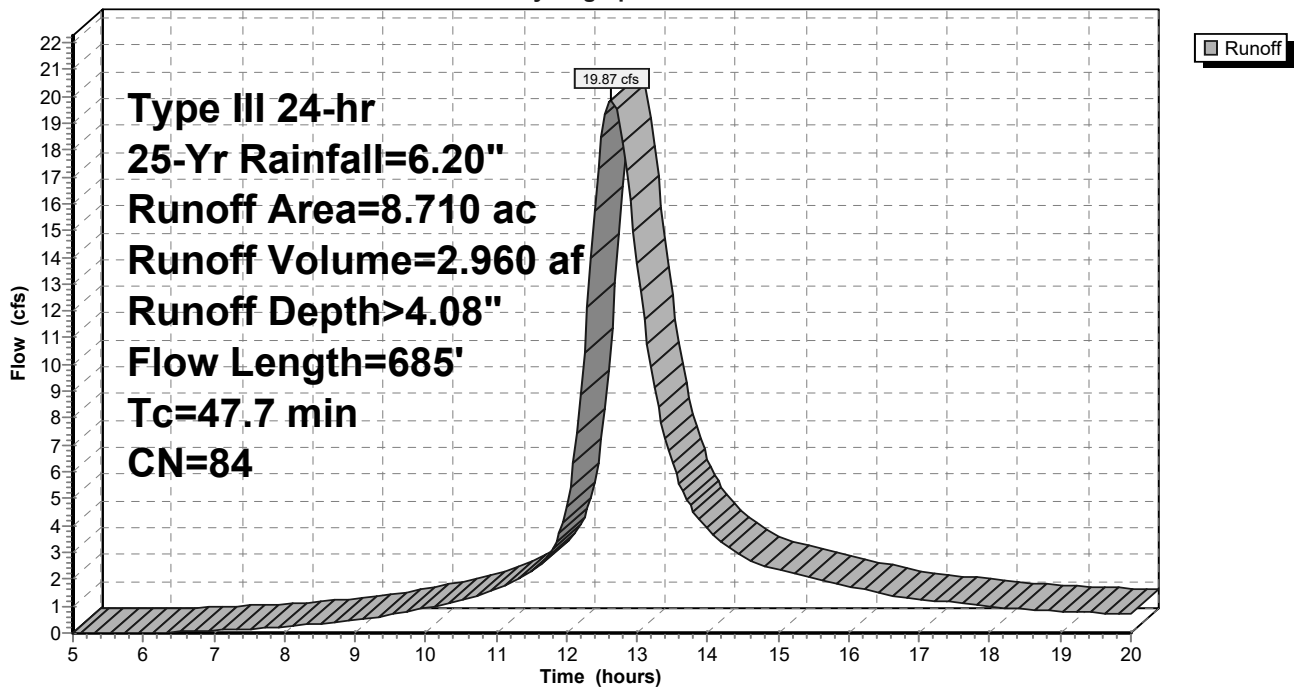
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Yr Rainfall=6.20"

Area (ac)	CN	Description
8.710	84	1 acre lots, 20% imp, HSG D
6.968		80.00% Pervious Area
1.742		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.4	100	0.0140	0.07		Sheet Flow, Post-3A
23.3	585	0.0070	0.42		Shallow Concentrated Flow, Post-3B
					Woodland Kv= 5.0 fps
47.7	685	Total			

Subcatchment Post-3: Post-3

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Type III 24-hr 25-Yr Rainfall=6.20"

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Summary for Subcatchment Post-4: Post-4

Runoff = 9.89 cfs @ 12.47 hrs, Volume= 1.266 af, Depth> 4.09"

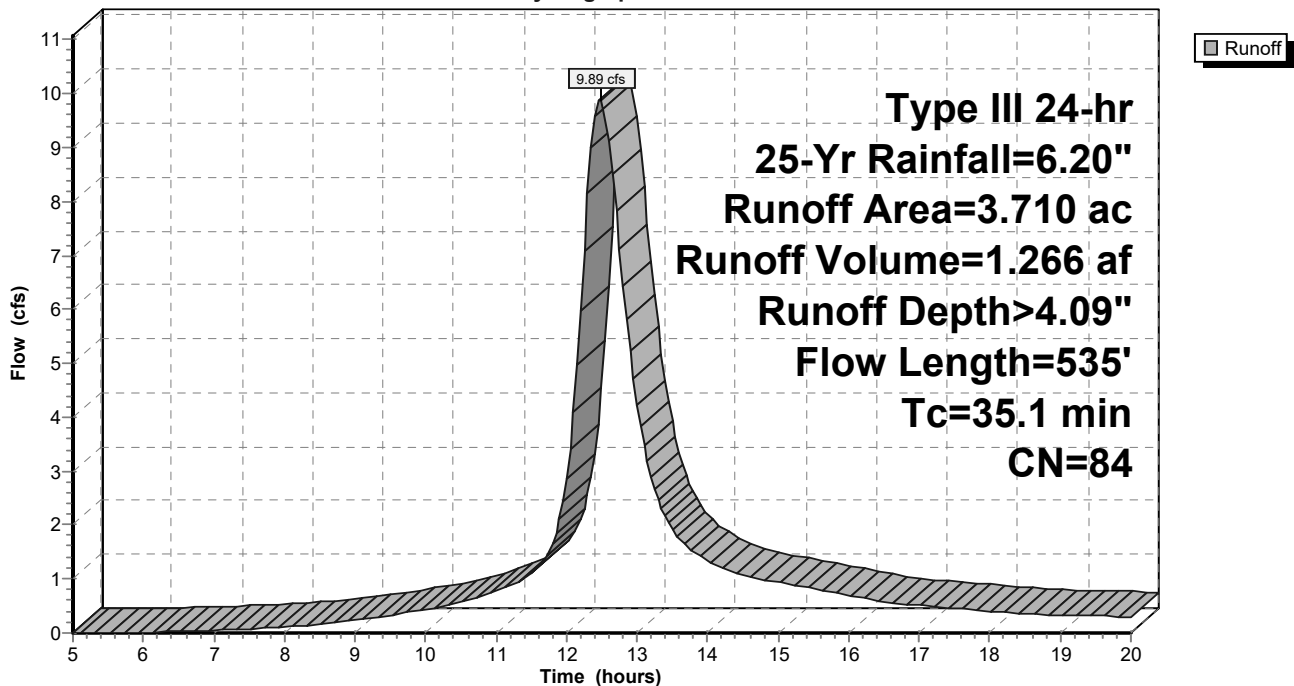
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Yr Rainfall=6.20"

Area (ac)	CN	Description
3.710	84	1 acre lots, 20% imp, HSG D
2.968		80.00% Pervious Area
0.742		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.1	100	0.0130	0.07		Sheet Flow, Post-4A
					Woods: Light underbrush n= 0.400 P2= 3.30"
10.0	435	0.0210	0.72		Shallow Concentrated Flow, Post-4B
					Woodland Kv= 5.0 fps
35.1	535	Total			

Subcatchment Post-4: Post-4

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Type III 24-hr 25-Yr Rainfall=6.20"

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Summary for Subcatchment Post-5: Post-5

Runoff = 4.14 cfs @ 12.36 hrs, Volume= 0.469 af, Depth> 4.10"

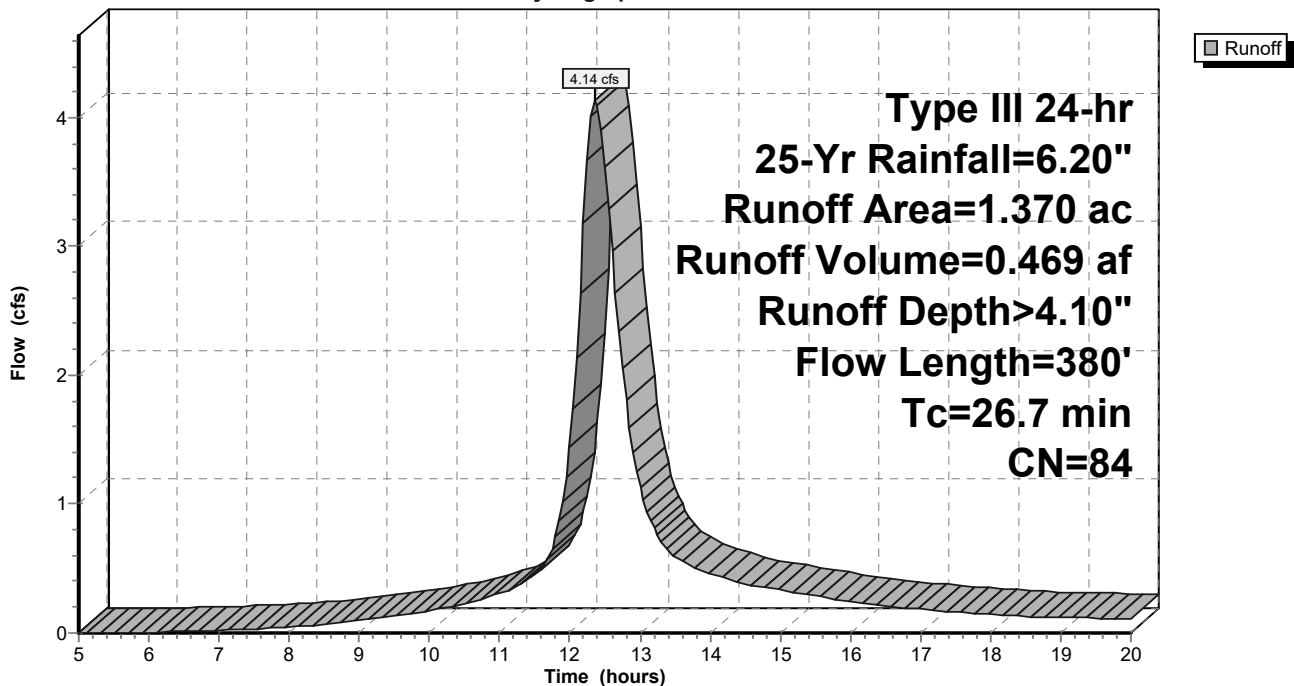
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Yr Rainfall=6.20"

Area (ac)	CN	Description
1.370	84	1 acre lots, 20% imp, HSG D
1.096		80.00% Pervious Area
0.274		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	100	0.0500	0.11		Sheet Flow, Post-5A
					Woods: Light underbrush n= 0.400 P2= 3.30"
12.0	280	0.0060	0.39		Shallow Concentrated Flow, Post-5B
					Woodland Kv= 5.0 fps
26.7	380	Total			

Subcatchment Post-5: Post-5

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Type III 24-hr 25-Yr Rainfall=6.20"

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Summary for Subcatchment Post-6: Post-6

Runoff = 6.33 cfs @ 12.42 hrs, Volume= 0.765 af, Depth> 4.10"

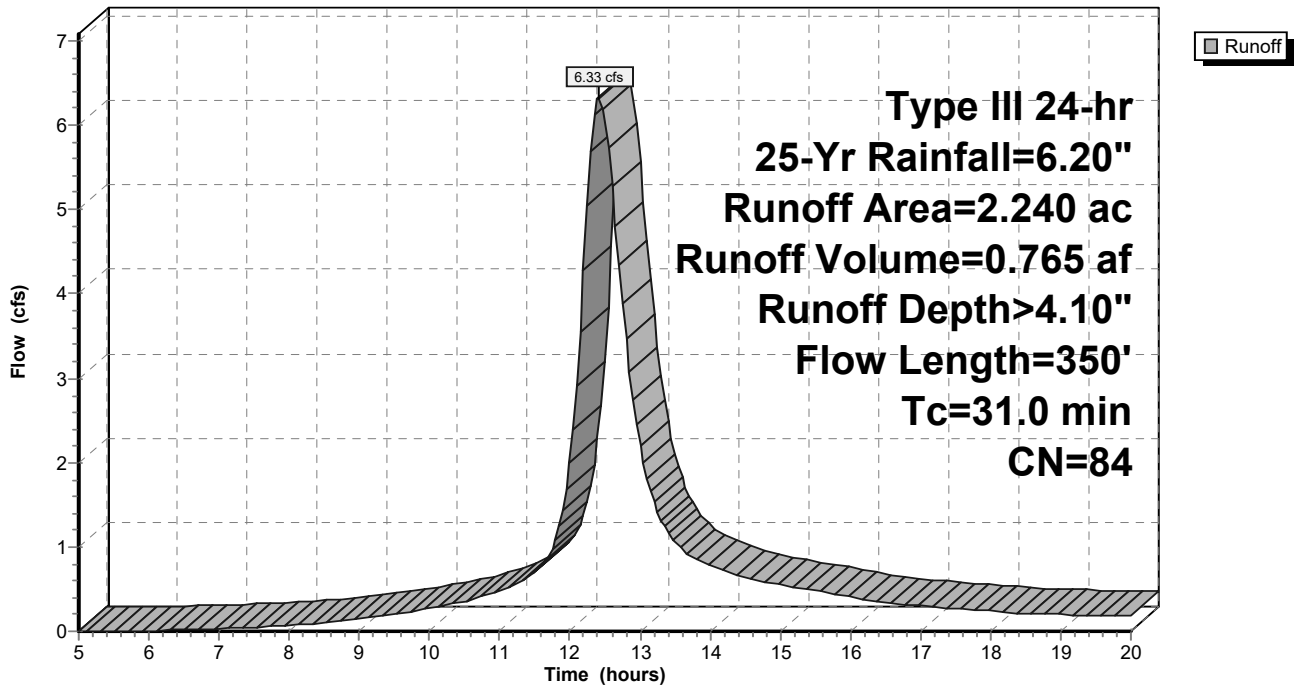
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Yr Rainfall=6.20"

Area (ac)	CN	Description
2.240	84	1 acre lots, 20% imp, HSG D
1.792		80.00% Pervious Area
0.448		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
27.9	100	0.0100	0.06		Sheet Flow, Post-4A Woods: Light underbrush n= 0.400 P2= 3.30"
2.8	150	0.0330	0.91		Shallow Concentrated Flow, Post-4B Woodland Kv= 5.0 fps
0.3	100	0.0100	4.79	28.77	Channel Flow, Post-4C Area= 6.0 sf Perim= 5.0' r= 1.20' n= 0.035 Earth, dense weeds
31.0	350	Total			

Subcatchment Post-6: Post-6

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Type III 24-hr 25-Yr Rainfall=6.20"

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Summary for Subcatchment Post-7: Post-7

Runoff = 6.97 cfs @ 12.29 hrs, Volume= 0.697 af, Depth> 3.40"

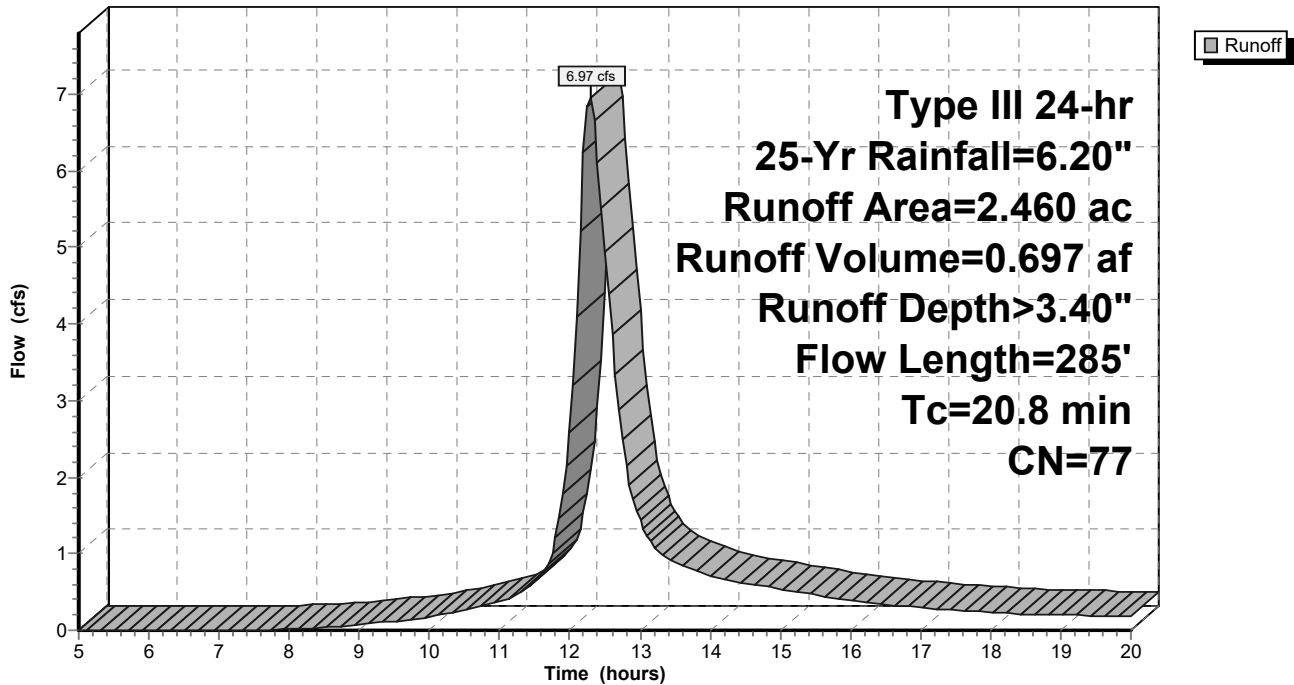
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Yr Rainfall=6.20"

Area (ac)	CN	Description
2.460	77	Woods, Good, HSG D
2.460		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.0	100	0.0300	0.09		Sheet Flow, Post-7A
					Woods: Light underbrush n= 0.400 P2= 3.30"
2.8	185	0.0500	1.12		Shallow Concentrated Flow, Post-7B
					Woodland Kv= 5.0 fps
20.8	285	Total			

Subcatchment Post-7: Post-7

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Type III 24-hr 25-Yr Rainfall=6.20"

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Summary for Subcatchment Post-8: Post-8

Runoff = 12.89 cfs @ 12.36 hrs, Volume= 1.389 af, Depth> 2.91"

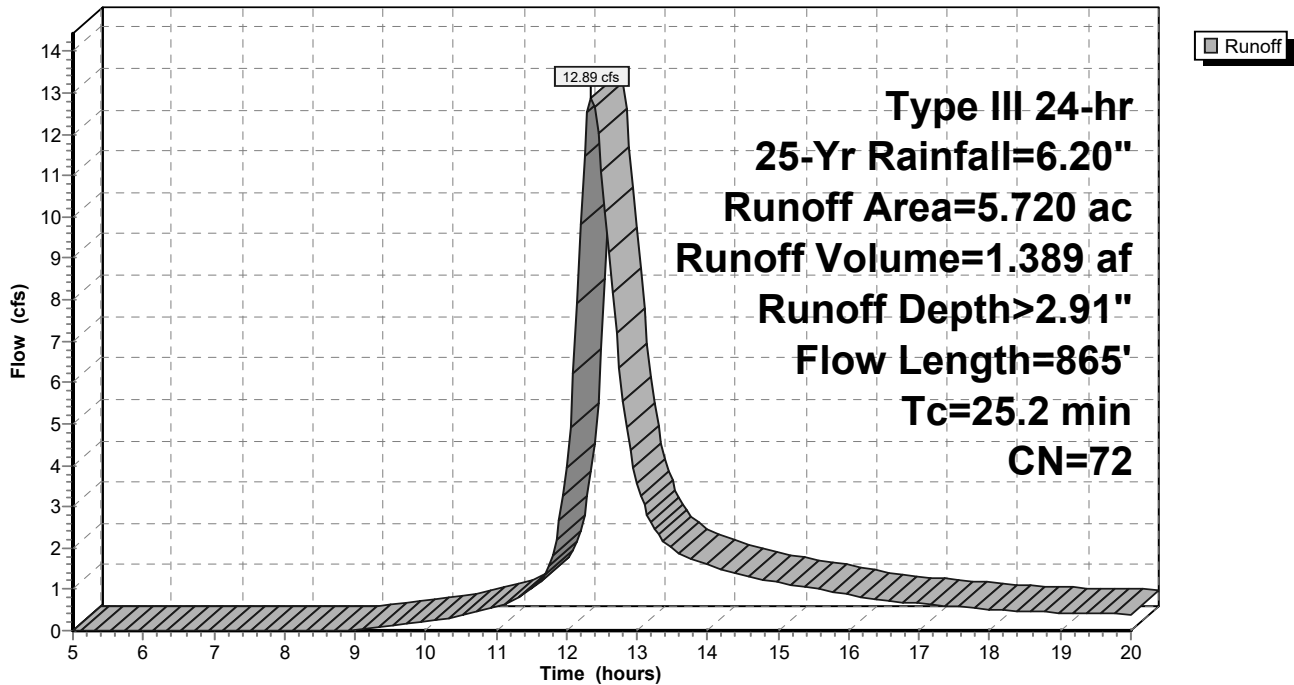
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Yr Rainfall=6.20"

Area (ac)	CN	Description
* 0.500	98	Impervious
5.220	70	Woods, Good, HSG C
5.720	72	Weighted Average
5.220		91.26% Pervious Area
0.500		8.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.0	100	0.0400	0.10		Sheet Flow, Post-8A
					Woods: Light underbrush n= 0.400 P2= 3.30"
9.2	765	0.0770	1.39		Shallow Concentrated Flow, Post-8B
					Woodland Kv= 5.0 fps
25.2	865	Total			

Subcatchment Post-8: Post-8

Hydrograph



Summary for Reach Reach-1: Stream

Inflow Area = 38.230 ac, 3.97% Impervious, Inflow Depth > 3.40" for 25-Yr event
 Inflow = 72.95 cfs @ 12.63 hrs, Volume= 10.816 af
 Outflow = 72.83 cfs @ 12.67 hrs, Volume= 10.796 af, Atten= 0%, Lag= 2.5 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 5.14 fps, Min. Travel Time= 1.4 min
 Avg. Velocity = 2.25 fps, Avg. Travel Time= 3.2 min

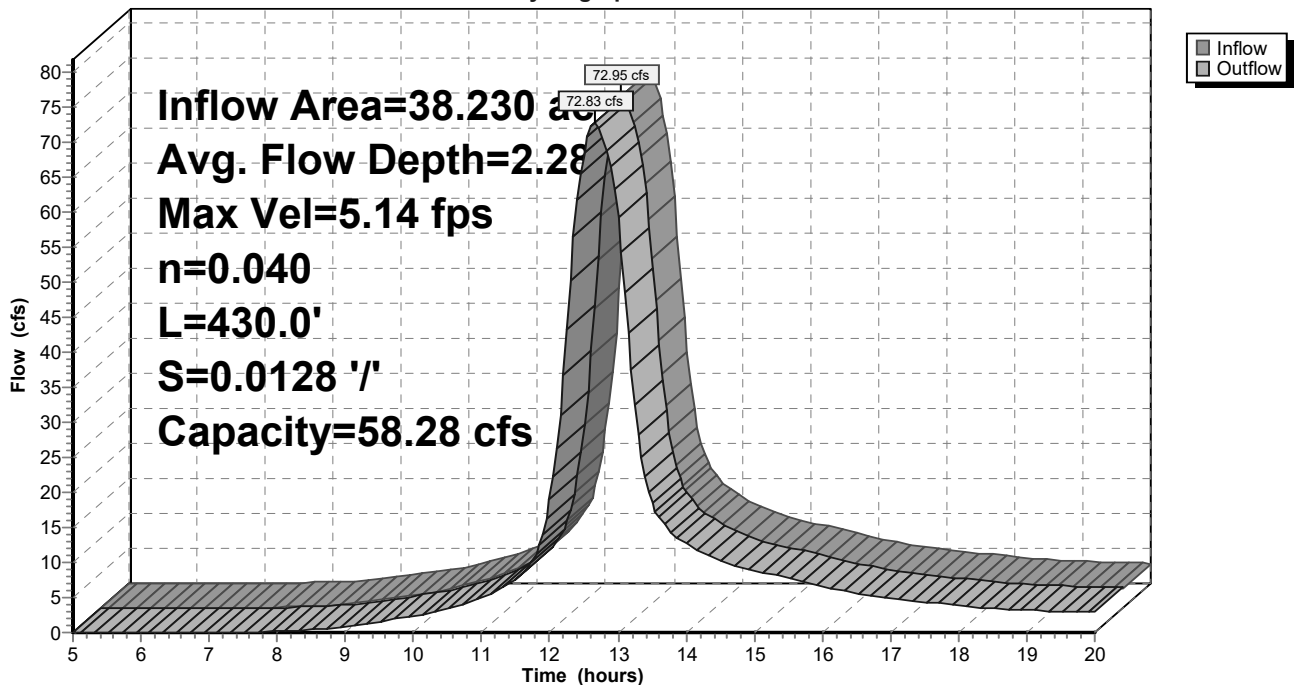
Peak Storage= 6,106 cf @ 12.65 hrs
 Average Depth at Peak Storage= 2.28' , Surface Width= 8.55'
 Bank-Full Depth= 2.00' Flow Area= 12.0 sf, Capacity= 58.28 cfs

4.00' x 2.00' deep channel, n= 0.040 Winding stream, pools & shoals
 Side Slope Z-value= 1.0 ' / ' Top Width= 8.00'
 Length= 430.0' Slope= 0.0128 ' / '
 Inlet Invert= 129.60', Outlet Invert= 124.10'



Reach Reach-1: Stream

Hydrograph



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Type III 24-hr 25-Yr Rainfall=6.20"

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Summary for Pond 1P: Det Pond-1

Inflow Area = 8.710 ac, 20.00% Impervious, Inflow Depth > 4.08" for 25-Yr event
 Inflow = 19.87 cfs @ 12.64 hrs, Volume= 2.960 af
 Outflow = 6.92 cfs @ 13.44 hrs, Volume= 2.840 af, Atten= 65%, Lag= 47.7 min
 Primary = 6.92 cfs @ 13.44 hrs, Volume= 2.840 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 130.85' @ 13.44 hrs Surf.Area= 15,629 sf Storage= 49,936 cf

Plug-Flow detention time= 94.6 min calculated for 2.830 af (96% of inflow)
 Center-of-Mass det. time= 80.4 min (884.4 - 804.0)

Volume	Invert	Avail.Storage	Storage Description
#1	127.00'	68,960 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
127.00	10,480	0	0
128.00	11,730	11,105	11,105
129.00	13,050	12,390	23,495
130.00	14,420	13,735	37,230
131.00	15,850	15,135	52,365
132.00	17,340	16,595	68,960

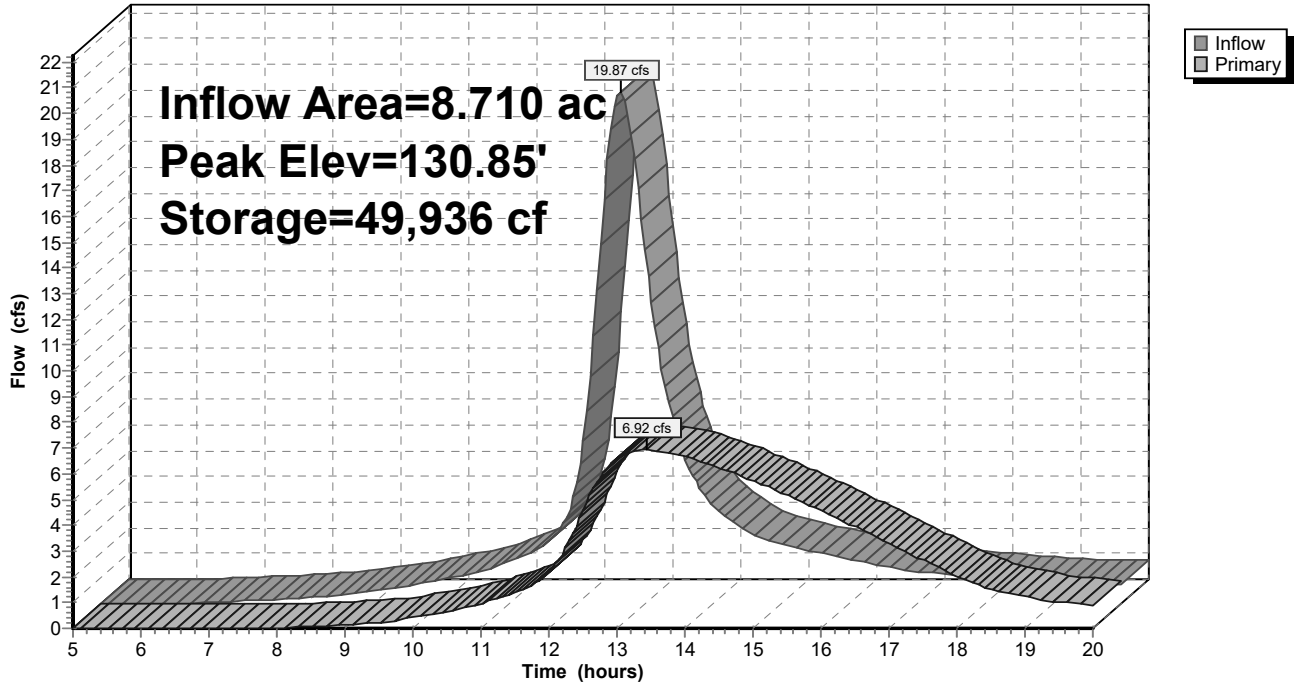
Device	Routing	Invert	Outlet Devices
#1	Primary	127.00'	12.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=6.92 cfs @ 13.44 hrs HW=130.85' (Free Discharge)

↑1=Orifice/Grate (Orifice Controls 6.92 cfs @ 8.81 fps)

Pond 1P: Det Pond-1

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Type III 24-hr 25-Yr Rainfall=6.20"

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Summary for Pond 2P: Culvert Inlet

Inflow Area = 38.230 ac, 3.97% Impervious, Inflow Depth > 3.40" for 25-Yr event
 Inflow = 91.51 cfs @ 12.42 hrs, Volume= 10.826 af
 Outflow = 72.95 cfs @ 12.63 hrs, Volume= 10.816 af, Atten= 20%, Lag= 12.5 min
 Primary = 72.95 cfs @ 12.63 hrs, Volume= 10.816 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 133.94' @ 12.63 hrs Surf.Area= 34,997 sf Storage= 41,555 cf

Plug-Flow detention time= 5.0 min calculated for 10.780 af (100% of inflow)
 Center-of-Mass det. time= 4.6 min (809.1 - 804.4)

Volume	Invert	Avail.Storage	Storage Description
#1	130.50'	94,763 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

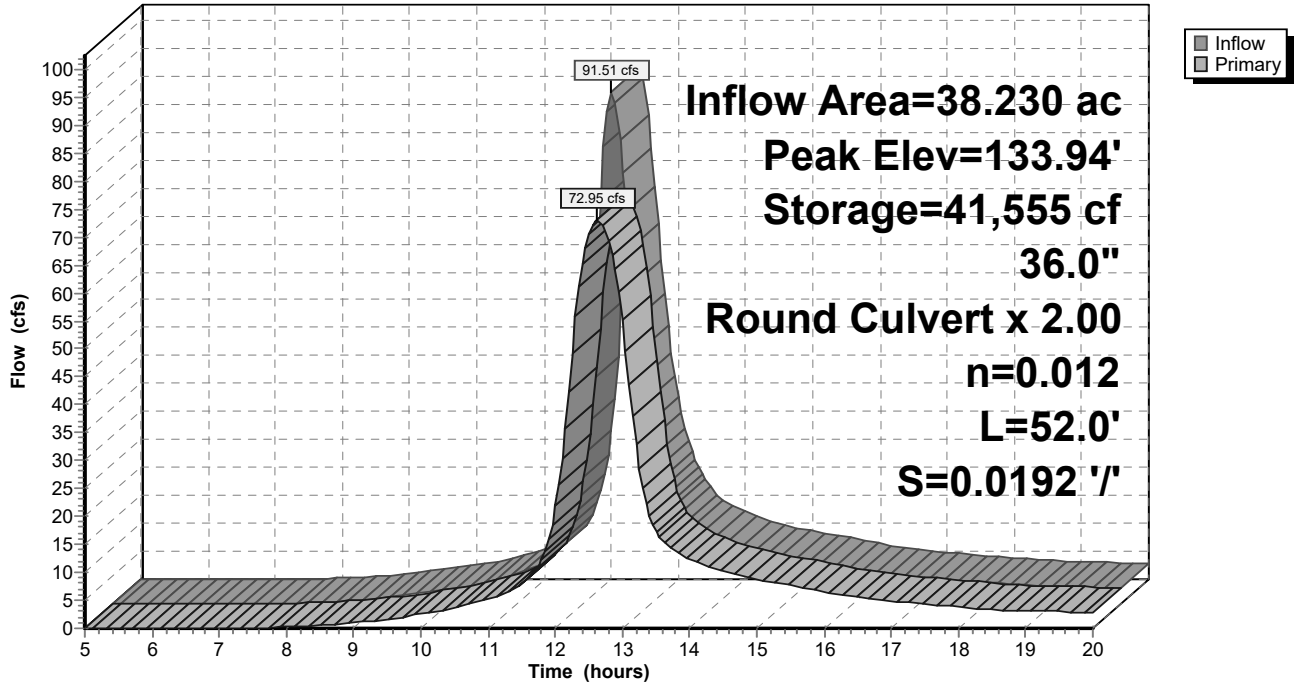
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
130.50	300	0	0
131.00	980	320	320
132.00	5,960	3,470	3,790
133.00	18,820	12,390	16,180
134.00	35,975	27,398	43,578
135.00	66,395	51,185	94,763

Device	Routing	Invert	Outlet Devices
#1	Primary	130.60'	36.0" Round Culvert X 2.00 L= 52.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 130.60' / 129.60' S= 0.0192 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 7.07 sf

Primary OutFlow Max=72.88 cfs @ 12.63 hrs HW=133.94' (Free Discharge)
 ↑**1=Culvert** (Inlet Controls 72.88 cfs @ 5.16 fps)

Pond 2P: Culvert Inlet

Hydrograph

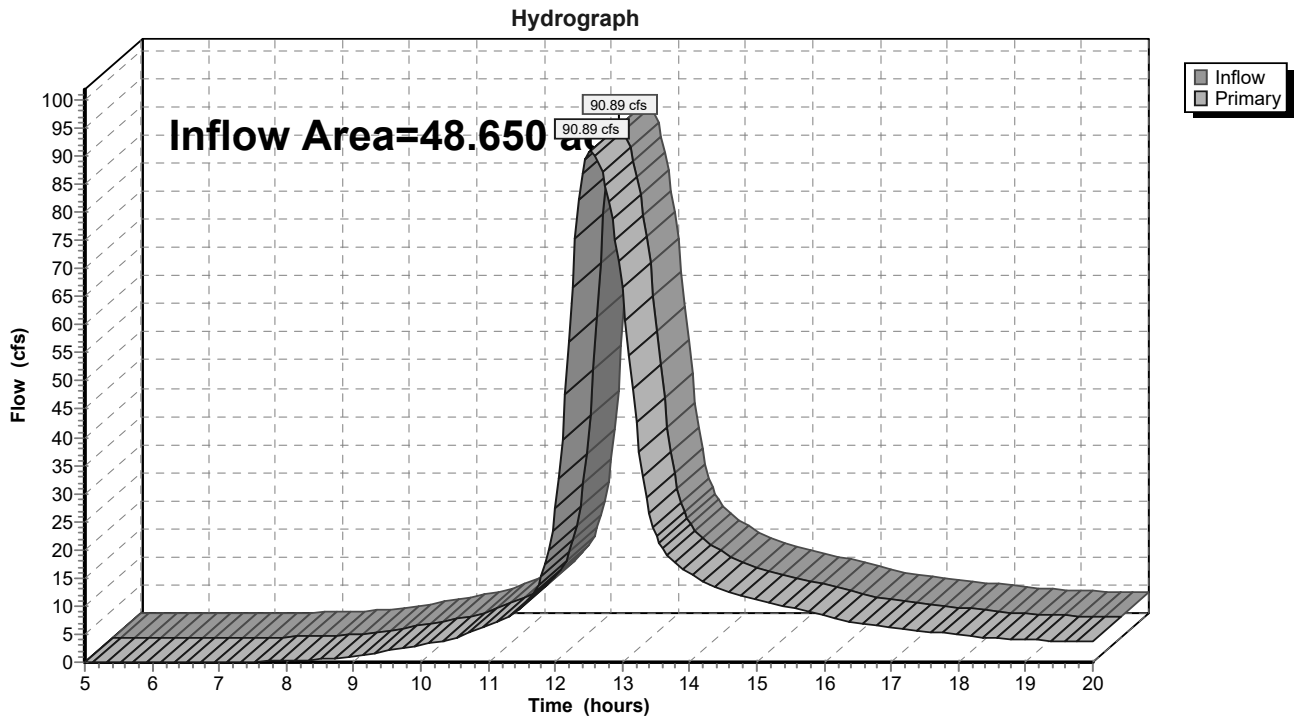


Summary for Link AP-1: Analysis point-1

Inflow Area = 48.650 ac, 5.06% Impervious, Inflow Depth > 3.37" for 25-Yr event
Inflow = 90.89 cfs @ 12.54 hrs, Volume= 13.647 af
Primary = 90.89 cfs @ 12.54 hrs, Volume= 13.647 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP-1: Analysis point-1



Summary for Link AP-2: Analysis Point-2

Inflow Area = 23.770 ac, 7.33% Impervious, Inflow Depth > 3.44" for 25-Yr event
Inflow = 32.43 cfs @ 12.70 hrs, Volume= 6.821 af
Primary = 32.43 cfs @ 12.70 hrs, Volume= 6.821 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link AP-2: Analysis Point-2

Hydrograph

